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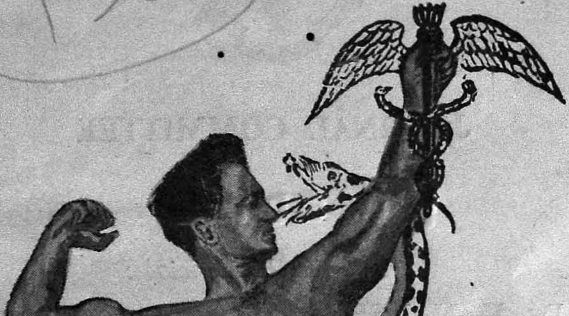

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Editorial

Days roll on ; new faces come and go, and many events take place ; but if one pauses for a while in the long and tedious journey of life and looks back the path he has threaded along, a deep sigh impregnated with a mixture of all the emotions emanates from his innermost recesses. That one long deep sigh, however short it might be in the actual measurement of time takes him back through his past, a miniature cinema show runs before his mental vision, depicting certain eventful faces and incidents which have left a very strong impression and which can never be erased by the tides of time. Really there is a sort of a painful pleasure to recollect the past and to revel in it, though speculating and building mansions about the future is none the less interesting.

We can compare this journal as a record of the recollections of the past some ever memorable events, functions, unforgetable odd things that befronted us in the wards and also some speculations about the future. It was indeed not an easy job, to maintain as far as possible a judicious balance between these two means of pleasure for our readers—not allowing too much of past events to predominate, nor allowing the imaginary short story writers too much " to weave the web desire to snare the bird delight."

Revolution in the ordinary sense of the term is indispensable for life. Without revolution the primitive man and his antiquated

customs would never have been cultured and civilized. But all the same it is quite likely to be censured at least by some who staunchly assert that old is gold and look at the new with amazed and frightened eyes. Let us hope that the novelty which we have followed with the intention of bringing a general improvement in the get up of this issue passes uncensured. Before the history of our College Journal pronounces its final verdict let us realise the importance of revolution in every aspect of life and lift high up our head with out-stretched hands towards the new stars that twinkle and attract our attention.

In a final survey of the year's activities some will say that the past academic year was not a happy year. It saw the mournful demise of the most prominent, and the first Principal of our College—Sri Thirumurthi. It was a bleak wintry year. Yes. But let me only add, that however much the year may have been so, as a nation inured to the habit of viewing life philosophically, we can still be philosophical and sing one with the poet—

"If winter comes;
Shall spring be far behind?"

—T. S. RANGANATHAN.

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Our beloved Dean.

[*Drawn by :* S. JAGADEESAN.]

ARTICLES

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Is Everything Right?

By

C. R. R. PILLAI, M.D., M.R.C.P. (ED.),

Professor of Therapeutics, Stanley Medical College, and Honorary Physician, Stanley Hospital, Madras.

NEEDLESS to say that the answer to that question could be only just as vague as the question itself, till one knows what is comprised in the word 'Everything'. Again the answer will depend upon the person who answers it, his understanding and conception as to what is wrong and right and which will be naturally tinged by his individual and personal ideas. Because, there is nothing like an abstract right or wrong. They are relative terms and the conception that something is right or wrong is governed by the acceptance by a majority who comprise the society. What may be thought of as right by some may not be taken as such by others.

On the eve of our 7th Independence Day the above question may be posed with different ideas by Politicians, Economists, Scientists or Educationists. Once in a way it may be worth the while to take stock of our present status in the different fields of human activity. As scientific medical men it may be intolerable for those concerned if we trespass the political, economical or social fields. It may be presumptuous and a rather stupid waste of time. Without committing that grave error let us pose the above question in relation to our Medical education, as is available at present in our colleges.

These are the days when medical colleges spring up like mushrooms—even without rains. But the similarity between the two ends there and then the disparity is glaring. A mushroom may exist only for a short time and then die off. They may not do any harm to anybody unless they belong to a poisonous variety. Not so with the medical colleges, which may linger on for years to come. There are no two opinions that we want in this country more number of medical colleges. Equally strong and undivided is the opinion that we want a really talented set of efficient people to be on the staff. It is legitimate, even though under the present circumstances it may not be logical, to hope for a better future and to explain away the present difficulties for the new and changed conditions. But if a positive direction is not given now if a strong, proper and correct foundation is not laid at present, all the hopes may be wishful thinking and the immediate and distant future become vague recollections of the past. One is not forgetful of the old saying that, "If hopes are dupes, fears may be liars".

I do not judge myself to be competent to analyse the pre-clinical studies neither do I claim a selective captivity at the clinical level. My ideas that I am jotting down are mainly due to the impact of the definite and tangible difference, that I have been able to appreciate between our undergraduate standard and that of his counterpart in the Western countries. I am fully conscious of the possible strong contradiction to that statement by those who may be better qualified than I am to pronounce an opinion on that subject. Even at the risk of being stamped as an impulsive individual with a superficial, casual and hasty judgment on an important topic, I do reiterate that fact even though with a heavy heart.

Over-crowding of the wards (not with patients) with not enough hands to properly guide them is such a well-known fact that it needs no recounting—and how much that one particular factor could affect the clinical standard deserves no re-emphasis. But apart from this perennial malady, I think that much of our clinical teaching is a negative one. To substantiate this profoundly out of the way statement, which superficially might have crossed the border of sanity concrete examples may be helpful. Paucity of reliable and good history which may be analysed and assessed with a view to provisional diagnosis and prognosis is so patently strong, that it is impossible for an ordinary student to fully appreciate the significance of a good history taking and the art of assessing such a history. Even though this deplorable state directly hinges on the poor and low standard of the

patients, it still has a negative influence on the student. However much the student reads or hears his teacher telling him of the various types of questions that must be put to a patient suspected of such and such a disease, he cannot have the feeling of conviction or appreciation unless the whole situation is equated in terms of absolute practice.

Leaving that now, let us take a concrete example. A patient suffering from acute rheumatic fever is admitted into the ward and then is a clinical, electrocardiographic and radiological evidence of a cardiac affection. Immediately the joint pains and fever have disappeared, you could see him walk about the wards, trying and collecting his own rations and just doing what all he should not do. And possibly in a week or two he is gone with a medical officer's notice or even much earlier without his knowledge. Now this is the actual condition which any intelligent student is observing. In contrast to this what is he served with in didactic lectures and even at the bed side ? He is told the time of absolute rest that is needed and the amount of partial rest that is imperative of a long convalescence. He is also told vehemently of the various finer points, which are useful in the assessment of the activity of the lesion and to enforce rest as long as there are signs of activity. This absolute contradiction in practise and theory is bound to create an unhealthy atmosphere with an air of insincerity, lacking in conviction and potentially capable of producing an intellectual indigestion. The student feels and with possible justification, that there are two brands of medicine—one which is verbal, theoretical and useful for discussion and the other circumscribed, narrow and with limited scope. Could a complacent attitude on the part of the student be blamed ? If he does not show an active interest, and a positive enthusiasm, it is because he knows that what is to be got theoretically may be got from any book and the limited practical aspect may be approached in a leisurely way.

Examples could be multiplied in any number. There is a lot of teaching about the restriction of fluid, salt and protein in the treatment of acute nephritis. It may be two days before a sample of urine may be got, for examination, not because the patient has anuria but for multiple reasons. And it is absolutely unlikely to get a report on the total intake of fluids and output of urine for the acute nephritis patients. The question of protein intake and salt content of the food does not come into the picture at all. How much could anyone think of emphasising these points to the students in this wrong perspective and the contradiction in theory and practice.

The positive aspect of medical treatment —that is to cure or alleviate the disease or suffering can never be appreciated fully by a beginner in a place when the majority of the patients are keen on sticking round the hospital just for the sake of the meagre food. There is no incentive on his part to get cured early and to go back to his work because there is no work for him. This indirectly at least has a psychological effect on the doctor which may make him forget the time factor. In other parts immediately a patient is admitted the one aim of both the patient and the doctor is to see that he gets out of the hospital fit and ready to rejoin his work. Time is an important factor which absolutely is not the condition in our parts.

The type of nursing with the limited number of nurses and the unlimited number of patients is again an antithesis in medical treatment which it is the lot of the student to experience. What could be expected in a place where a colonial type of long distance administration by the nurses are carried on is a moot point not worth discussion.

The incompatibilities of laboratory investigation and clinical findings are so many that a student cannot be expected to cherish the idea of both being complementary but instead he is forced to the situation of accepting them as contradictory. In a modern set up all this will contribute to the negative aspect of the teaching.

Much could be done to improve the existing standards even under the existing circumstances. The future depends on the all-out and concerted attack of the various problems by all concerned in whose hands the responsibility is resting.

So finally, " Is Everything Right ? " Possibly yes if we are to blind ourselves but emphatically 'no' if we are to face bare facts without any bias.

Hypertension

By

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HYPERTENSION! What a magic word in the realm of medicine. The meeting ground of the Physician and Surgeon, the academician and the therapeutician, it is at once the most baffling and therefore the most interesting problem in modern medicine. The discovery of an array of ganglionic blocking agents have ushered in, an era of extensive hypotensic therapy, second perhaps, in its picturesque varieties and dramatic possibilities only to the antibiotic battery. A wide range of surgical procedures from sympathectomies to adrenalectomies have only made the confusion worse confounded. In the absence of a definite understanding of the aetiological factor, one is constrained to feel, that a particular palliative approach is guided more by the "fancy of the latest fashion" and not by any "clear and irresistible scientific logic" as it should be. Be that as it may, we shall try to confine ourselves to the problem of the aetiology of this condition, without wandering into the bitterly contested battle fields of its pathology and its "medical" and "surgical" treatment.

Nor is our task easy. It would be sheer presumption on the part of a physiologist to climb the dizzy heights of hypertension, marked as it is with the foot-prints of discarded ideas, where many an experienced mountaineer has lost his foothold when trying to fasten his theoretical rope, on illusory landmarks of individual organs and realized his fatal mistake only after landing himself on an unenviable aetiological ledge from which he could neither proceed forwards with surety or back out with conviction. Millions of words have been written, thousands of research projects undertaken, and hundreds of multiple operations to simulate a kaleidoscopic variety of aetiological factors done, that the problem has become much more complicated to-day than it ever was. It is very difficult to separate the grain from the chaff, to come to any sane conclusion from the bewildering array of facts, relevant and irrelevant, and one wonders whether it is not the old story of too many cooks spoiling the broth.

In matters like this where the last word has not been said, it would be worthwhile to look back into the historical background, so that we may realize our mistakes and proceed on more fool proof lines. Upto the turn of the century, there were 3 schools of thought concerning the inter-relation of hypertension, arteriosclerosis and renal disease.[1]

(1) The followers of Bright who believed that hypertension was due primarily to renal disease.

(2) The followers of Gull and Sutton, who ascribed Hypertension to widespread vascular disease and regarded the Renal lesion as purely secondary.

(3) Those who believed with Albutt that hypertension was due to generalized vasoconstriction unrelated to renal disease.

Out of these conflicting theories, two crystallized views on hypertension emerged during this century. These were what is generally known as :

(1) The *renal theory* of hypertension of Goldblatt.

(2) The *neurogenic theory* based on the work of Heymans and his associates.

Goldblatt found that when he produced constriction of the renal arteries in the dog, there was a persistent elevation of mean B.P., which disappeared on removing the constriction, and that there was no widespread arteriosclerosis even when B.P. was maintained at a high level for a long time. This was a most significant discovery, the brilliant glory of which is likely to be tarnished by the passage of time and in the changing concepts in the field. Nevertheless, the fact remains that it was the first time, that the clinical condition was experimentally produced in an animal, and hence it was the first landmark in the horizon of hypertensive research. Goldblatt and his co-workers and those who followed his methods, produced a

variety of experiments, in which all possible permutations and combinations were tried and they were able to prove that Experimental Hypertension was not mediated through the nervous system or through any of the endocrine glands, with the possible exception of the adrenal cortex. The consensus of their view was that alterations in the renal circulation lead to the secretion of *Renin*, a proteolytic enzyme first extracted from kidney tissue by Tigerstedt and Bergman, which reacts with plasma alpha—2— Globulin (*Hypertensinogen*) to liberate an active pressor polypeptide (*Hypertensin* or *Angiotonin*). Another enzyme *Hypertensinase* which is able to destroy hypertensin is also present in the blood.

The neurogenic theory was the direct result of a proper understanding of the role of the carotid sinus nerve and the aortic nerve in the maintenance of normal B.P. The cardio-inhibitory reflexes maintained through these nerves are well-known, and a reversal of this inhibitory reflex naturally leads to an elevation of B.P. The sectioning of the sinus nerves thus gave an easy method for experimental production of hypertension. This was the situation as it existed about a couple of years ago.

The neurogenic method of producing hypertension, while it provided a method easy of surgical approach, and neat as an experimental study could find little favour as a causative factor in the production of experimental hypertension in man, as a lesion consistent with animal experimentation was unknown and unlikely to occur.

The evidence against Goldblatt's theory, on the other hand had to build up with much more difficulty as the theory was more attractive and appeared more likely to occur in human beings. The seeds of doubt were first sown by the fact that while small amounts of *hypertensin* have been found in the blood, and an increase in *Renin* in renal venous blood of both dogs and man after arterial constriction, the failure to find increased amounts of either *hypertensin* or *Renin* in the blood of chronically hypertensive animals or man. Bruan Menendez attributed this to inadequate methods and recently Kahn, Skeggs and Shunway were able to isolate increased quantities of hypertensin from the blood of chronic hypertensives.[2] But the harm had been done, and the sparks of skepticism once kindled burns fiercely. Grollman, Muirhead and Vanatta kept bilaterally nephrectomized dogs alive for periods upto sixty-nine days by the use of artificial kidneys and reported hypertension in 28 out of 38 animals.[3] Leonards, Heisler, Ortison and co-workers repeated these experiments and found out that only those animals retaining excessive amounts of fluid showed hypertension.[4] This proved that any vasoactive, hypertensive agent if it was produced at all in the body could not be produced by the kidney tissue, as hypertension occurs in the absence of any kidney tissue whatsoever.

Thus the Renal theory of hypertension was challenged and evidence against it started mounting up steadily.[5] But hitherto, the evidence was mostly in the nature of negative proofs, and in the absence of a definite accused, the burden of guilt built on circumstantial evidence, could still be placed at the door of kidney tissue. Latterly, however, it has become evident that the place to look is the adrenal cortex, though it must be admitted that the mechanism is as yet obscure. This evidence is, of course, the hypotension of Addison's Disease, the hypertension produced by Desoxycorticosterone Acetate, the disturbance in hypertension of the sodium and potassium balances, the modification of Renal hypertension after adrenalectomy, and the stress syndrome as a predisposing factor in human hypertension.

First, it was found that the major forms of animal hypertension, in which the genetic mechanism is set in motion by the experimenter, show many resemblances to the human disease in their functional and architectural derangements.[6] Nevertheless, the methods used to induce experimental hypertension differ so much, both from one another, and from what is known as the spontaneous origin of essential hypertension as to cast doubt on the validity of pathogenetic or therapeutic interpretation based on the resultant animal disease. It is highly significant that there is but one common denominator between essential and animal hypertension and that is the existence of certain specific patterns of sodium exchange which are correlated with the stage of the disease. On the basis of this, analyses have been made of the cations and water in the

wall of renal arteries, atrium, bladder, psoas muscle, and frontal lobe of the brain, using human necropsy material 5 to 7 hours after death. There is a significant increase in water and in sodium on the basis of either dry or wet weight. This amounts to about 17% in 17 hypertensives compared with 15 normotensives. It was unrelated to oedema in the patients. The amounts of potassium and magnesium were normal. The authors[7] point out that if an arteriole of wall thickness 10 μ and lumen diameter 10 μ were to have its wall swell 13% by reason of sodium retention, the new wall thickness would be 11.5 μ and the lumen diameter reduced to 9 μ. By *Pouiseuille's Law,* the resistance to flow would thus increase by 50%. Others[8] have shown that sodium accumulated in experimental hypertension in animals. Thus the relationship between accumulation of sodium and hypertension has been proved beyond doubt and the value of the so-called rice diet in hypertensive patients is today admitted as being due to the low sodium contents of such a diet.

The relationship between sodium and the adrenal cortex is obvious and hence it is easy to understand Ledingham's arguments.[9] He found that parabiotic rats (skin joined at 18 to 24 days) would thrive and grow with their circulations interconnected, and that if total nephrectomy was done on one member, the kidneys of the other took over their functions adequately. It was shown that the nephrectomized member became hypertensive while the other did not. Moreover, arteriolar lesions occur in the nephrectomized member, not in the other. If now, the adrenals of the affected member are totally removed, the hypertension is abolished. With these and other related experiments the author shows with a logic that seems inescapable that the hypertension must be due to a pressor factor from the adrenals, which is normally eliminated or neutralized by the kidney.

Thus we find that the most likely causative factor in the production of hypertension is an overactivity of the adrenal cortex, and probably its *mineralocorticoid* hormones resulting in a retention of plasma sodium, which sets off the vicious circle ending in a state of hypertension. It is pertinent to ask at this stage, what causes the overactivity of the cortex? Even before any evidence

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against Goldblatt's theory was advanced, it was a trying problem to find out *"who put the clip in the spontaneous hypertensive human?"* But in the case of the adrenal theory, we are again on better grounds. It has been known for some time, that organisms when they are subjected to trauma,—Mental or Physical—react with certain patterns of response. Adrenal activation under these circumstances is thought to be an important constituent of a non-specific pattern of response to trauma—the so-called *general adaptation syndrome* of Selye; whose "acute phase" has been termed the *"alarm reaction"*.[10] While this response is presumably a homostatic mechanism, possessing survival value for the normal organism, it *seems unlikely that the reaction* is of equal physiological appropriateness under all circumstances. Conceivably, in an organism with pre-existing disease or sensitivity of tissues, participating in the reaction, activation of this response pattern may even be detrimental. The outcome of a given stress situation might then be expected to be a biological resultant between the deleterious action of the specific stress, and various effect of the non-specific response to trauma, certain of which would tend to support the organism and others to operate to its disadvantages.[11]

To sum up then it looks as if the most likely cause of hypertension is an overactivity of the adrenal cortex, probably initiated as a result of physical or mental trauma. This is also is consonance with the observation of psychiatrists, that essential hypertension is mostly the result of worries and maladjustments or to be more scientific, it may be a somatic manifestation based on excessive inhibition of hostile impulses. This excessive adrenal activity overdoes its job, with the consequent injurious result of Na retention, and this in its turn brings about a hypertensive state either by a direct action on blood vessels, or by sensitizing the tissues to some normally occurring hormones like *Nor Adrenaline* or by preventing the kidney from secreting or neutralizing some extra renal vasoactive agent. Of course, as we have already stated in the beginning it is not as if this view is perfect. It has its lacunae and ill-understood aspects, but one thing is certain: Somehow or other the adrenal cortex must be to blame in hypertension.

We can only conclude by stating that much light has been shed on this problem in the past few years and we hope that ere long, the problem will be solved, and one more long and laborious research trail would end. Let us emphasize with the poet:

"Say not the struggle not availeth
The labour and pain are in vain."

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DREAMS

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SINCE the world began, dreams have played a very important part in the history of human behaviour and progress. Dreams of kings have made history. As a divine communication, its interpretation has filled pages of personal history. Instances are on record how dreams of a few have led to detection of crime, the realization of hidden wealth and the establishment of icon worship. It cannot be denied that dreams are very much a part of ourselves.

Though an agreed definition of dream is beyond the present purpose, a tentative working definition may be given as follows. It is a subjective experience of the mental activity of an individual under the influence of sleep, where thoughts are woven into patterns similar to human experiences of life. They are without reference to reality as judged by relation to time, space, matter, physical agents, etc. The mental processes cease with awakening.

Before we discuss dream attributes, an understanding of the physiological process of thinking will be useful. Thoughts are the products of activity of the mind. Mind is that part of the human being which can initiate thought processes. Where the mind is located in the brain, is not clear. Probably, it is represented by the whole of the gross mass of grey matter of the brain. Initiation of independent thought is known to be possible only after a certain degree of growth and development of the brain and of the animal in the animal scale is reached. Before thought can be independently initiated, the receptors of the brain through the five senses must be active. As a child develops, sensory impressions get stored up. Only on the basis of such accumulated impressions, may independent thought be initiated by the brain, as an expression of its psychic activity. These experiences are difficult to demonstrate in terms of structural change in the brain cells. A poor indicator of such change is the gross amount of brain matter in its different parts. During a child's growth, certain parts of its brain grow more rapidly than others, probably due to this cause, *e.g.*, the temporal lobe shows early marked and rapid growth, sound impressions being absorbed maximally at that stage. Recorded mental activity is memory. The record is not of isolated mental thought, but an agglomeration of those which form a psychic picture; a constellation of thought. (The analogy in somatic function will be, the representation of functional activity of the motor cortex, not of movement of muscles in isolation but of patterns of movements; in the field of sensation, not as isolated sensory modalities, but as constellations which make up quality.) Though we do not know how memory is recorded in the grey matter, yet its record is certain; for these are brought to the surface (of the conscious) as exemplified by the long periods of time that memories survive. As these records of memories increase with life's activity, another faculty is developed by the brain. This is called inhibition (a faculty whose existence in the somatic functions of the nervous system is well known). This allows one constellation of thought to remain on the stage of the conscious and the ego. Conscious is the part of you that is awake, receptive, accumulative, interpretive and effective. The type and pattern on which this conscious is developed, determines the ego or the personality. Personality is the sum total of yourself which gives you individuality, the YOU, as is seen by, or shown by you to, the rest of the world.

The brain may be compared (grossly) to a radio set. This does the thinking (produce programmes). The patterns that can be produced by this brain are dependent upon its development and the range of its memories (represented by the various broadcasting stations). The personality or ego allows only the thoughts it likes for the moment (the desired programme). This selection results, in psychological language, in attention, purpose, concentration etc. The types of thought it permits is a revelation of the personality (the types of programmes permitted is an indication of taste and refinement of the tuner). The ego may prohibit mental activity (thought) to proceed in a particular direction, *i.e.*, suppression out of the conscious. The ego thus, initiates, controls,

directs and censors the activity of the brain (programmes). It also actively checks up, by virtue of information it receives through other channels, or past recorded experience, what the brain is doing. For example, if the thought touches upon smell of good food, the conscious verifies through the medium of sensations reaching it via the eyes, touch, tongue etc. and immediately notes the falsity of the notion or otherwise. If, say, the thoughts produce a constellation of a vision of beauty, the ego may not permit its full run, if unsuited to the moment or its purpose. This is how normal thoughts (radio programmes) are directed by our personality.

Let us imagine a radio where the provision to prevent all broadcasting stations being heard at same time is absent ; there will then be such a confusion, where you may be able to make out a snippet of a song here, and a phrase of a speech there, but the rest will be one racuous cacophony. This is the type of brain activity that occurs during dreams. The picture of one memory is mixed with that of another ; time relations are confounded ; a ghost voice breaks in the midst ; you do impossible things ; past, present, and the future are jumbled ; space and matter do not exist ; verification is absent ; there is no inhibition, no purpose, no concentration, no programme and nothing to indicate the existence and activity of (the tuner or the) ego. On cutting off the current or on waking, there is a sudden cessation of all activity of the mind (and the radio). Such is dream. The Ego (the cat) is away and the thoughts (the mice) are at play. Sleep has removed the function of the conscious and the ego. The thoughts, hence are a dream. The period just before awakening, as in the early hours of the morning is most prolific in dream production.

Those which initiate thought processes, either during sleep or waking state, are the afferent impulses coming through our sensorium, external and internal. They set up mental processes which bring into the brain inhibited memories of the past experiences. Thus ideation widens like ripples set up in a pond by a stone thrown ; each ripple touches a new memory, and thus many foci of activity come into being. A medley of memory picture patterns is caused. These during waking hours are managed by the processes of control, to serve the ego and what might have been the matter for a dream of sleep, is converted into a real awakened, and purposive thinking.

Where sleep is not the cause of lack of such correction, the resulting phenomenon is given various names. When the ego voluntarily relents (weak personality) a free rein is given to thinking. Result, a day dream. Other similar states are, "dreamy state", "phantasy", "brown study", "vision", etc. The ego may also lose control temporarily during very highly tense emotional states, as in rage, love, hate, rapture, surrender, submission, ecstasy etc.

Certain drugs are known to act in like manner. The resulting phantasmagoria cannot be called "dream", but is very much the same ; a toxic mental state. Such drugs are, *alcohol, hyoscyamus, cocaine, absinthe, ganja* and the latest, introduced by Aldous Huxley, *mescaline.* The thought processes woven by the brain under the influence of these drugs will vary according to the site of activity in the mass of brain matter which is responsible for the process of thinking and afferent impressions. To take alcohol, for example. In small doses it allows purposive thinking by increasing the number and grade of pertinent thought processes ; result, a very intelligent and sometimes, a brilliant achievement ; something better than without the drug, because ideation has been stimulated, memory ransacked to the full and the ego left untouched. With larger doses, the inhibitions of the waking ego are dulled ; the person permits things and thoughts which he will not permit during the un-drugged period. Still larger doses damp the appreciation of the sensations from outside and oriention ; he becomes maudlin. With very heavy dosage, the whole brain is thrown out of action, even in its gross somatic functions ; outcome is stupor. All drugs do not act in the same manner. Ganja removes the inhibitions over the sphere of pleasurable and sexual thought ; so the dreams have a euphoric and voluptuous pattern. The drug newly introduced, mescaline, is claimed to produce the following experience. The person "was not admitted to an entirely new world of visions but was looking at his old world with new eyes. Everything was aflame with colour, radiant with light. 'He was seeing what Adam has seen on the morning of his creation—the miracle, moment by moment of naked existence'". The ability to think straight and remember is not at all

impaired as with alcohol. It removes the ego to a position to study itself. All this, without possibility of addiction and very cheap!

During hypnotic states, the ego is thrown out and its place taken by the hypnotiser. Thoughts under such influence are those ordered by the hypnotist who takes the role of the tuner and the programme-decider.

A few simple examples of dreams will help to understand. Let the effects of a strong light on a sleeper be considered. It starts an imaginative process of thought if he is not already in one. He will weave according to his past experience (immediate or remote) a pattern around, say, a motor car in which the bright head-lights shine and come upon him and he may wake up with a shout that he has been run over. For a change, let us imagine that the sleeper is a shikari and/or has read recently tiger stories like those of Kumaon which have left a strong impress on his brain (strong memory). He is likely to dream of attack by a tiger and the bright light on his face might represent the eyes of the tiger. Waking will occur when the afferent is so strong as to wake up the conscious. It is possible that these instances may be modified by the personality, of the individual (real or desired). If he is, let us imagine, one that wishes to dominate over others, (at least in dreams, having failed miserably in waking life) then, in the motor car dream he may be easily able to stop the car or even overthrow it with his little finger! In the case of the tiger or tigress (a female) he may wrestle with it and easily vanquish it, and stand with his foot upon the prostrate animal. In the latter instances, the symbolic representation by the ego modifies the events and course of the dream-picture. Similarly, viscera may start and/or shape the content of a dream. A hyperacid and spastic stomach may set up dreams of a Barmecide feast; eating ravenously without satiation. A distended bladder leads to a dream where relief is sought; so with seminal vesicles, and if in the pre-slumber period thoughts in relation to sex were associated, the dream may end in a pleasant emission. The effects of indigestion on the production of nightmares is a well-known experience.

Do dreams indicate health or disease? Dreams themselves do not mean disease, even as mere thinking cannot. It is the aegis under which the process is carried out, that connotes health or disease. They indicate by their frequency and content disorders of the ego and personality. Purposive thinking is very good and highly appreciated—but thought wandering, is a pointer towards weak personality. When the stimulus to dream-thought is from unhealthy state of the viscera, the dreams point to disease, but are not disease processes in themselves.

What breaks the dreams? When dreams are very pleasurable we often wish we could go on with the dreams. Dreams break with the touch of reality; and reality is the awakening of the conscious or ego; that touch-stone which testifies to the reality of each constellation of thought. Where a personality is strong-willed, non-vacillating, the type which will not allow thought processes a freedom, in such dreams have little scope. Such men are practical philosophers who accept the contacts with the outer world without question and do not waste even a single thought. They have no unsolved problems. They have nothing which they wish to hide away in the subconscious by the ego. On the other hand, those with imagination, poetry, fancy, good memory and worrying temperament with unsolved problems etc., they are ready to submit themselves to dreams and indulge in them to the extent of addiction; nay may even get immersed in day-dreams and phantasies! They are the types which like to escape from the ego and take to drug addiction for relief.

What if the dreams do not break? The dreamer is not brought back to the control of his personality. He exists in the dream world as a new personality till touch with his original personality is brought about accidentally. These states are pathological; they constitute the fugues, "lost memories", "possessed-of-the-devil", people with prescience of the past etc. They become permanent dreamers (psychotics) or permanent somnambulists. The Dr. Jekylls and Mr. Hydes of life are dreamers who wake up each time from one dream personality and pass on to another type. On similar argument, one eminent neurologist has thrown a suggestion that our waking life may be nothing but a dream which fact we may realise on the day of resurrection!

It may seem surprising that long forgotten scenes and incidents relating to early life should feature in dreams. They must have been (at the time) deep impressions of high

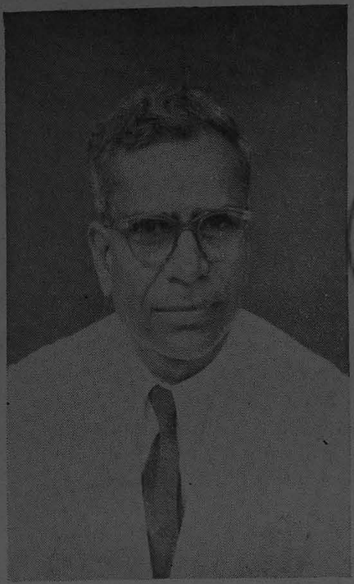
emotional content which the developing of personality has pushed into the background. These get resurrected by afferents during the periods of absence of ego function. They are the "insulated" and "un-associated" memories produced by the ego, by strong barriers of inhibition. It is common knowledge that our memories are recalled at will more easily, if we link them with other experiences of great impress. This is the principle underlying the mnemonic methods. Memory is an asset when we can faciley, both inhibit them from the conscious and recall them at will. It is the buried and hidden away memories that the psycho-analyst tries to bring to the surface for inspection and consideration of both the patient and the psychologist so that it may be suitably resolved to the satisfaction of the ego. It is a hope that dreams may bring to light such sudden memories for solving individual psychological problems. That hypnosis and suggestion might do the same, is the wish.

How to interpret dreams ? Can they come true ? They will, as often as wish fulfilment is possible. It does, though rarely, happen that the dream has presented a solution to a problem which the waking mind has not been able to solve. Here, the dream brings to aid, probably, memory which has not been under voluntary recall. Do revelations take place through the medium of dreams ? There are no scientific data for such supposition. The dreams of Joan of Arc and those of the Pharoah have no touch with science. Dream interpretation requires knowledge of the dreamer, the make up of his personality, the content of his experience, capacity for imagination, memory of the past and its nature etc. ; information on these lines will be required. A complication of dream interpretation arises on account of the fact that life's activities are carried on in symbols. Our communication with one another in speech and writing is by symbols ; we have symbols for expression of mutual relationships. A crown means authority, kingship ; stamping down is symbolic of success, victory, imperialism etc. ; the twirl of the moustache is a symbol of manliness and power, and so on. Our whole life revolves around symbols. In dreams the occurrence of these symbols is very common and perhaps the reason why dream interpretation fails, may be that we do not understand the symbolism. In the classical example from the bible, the lean kine of the Pharoah dream represent famine ; in the instanced tiger-dream, the tigress will represent a female. All dreamers do not have the same code of symbols, just as not all people have the same code of secret representation of their mental content. This subject is further complicated by the manner in which during our daily waking minutes we suppress what is not wanted by the ego and parade those it wants. In this world, we all want to be taken for what we seem to be, not what we are, really, by a symbol-ridden way of ordered waking life. If these pretences are taken to dream-thoughts, dream interpretation is well nigh impossible, for the dreamer continues to be "dressed up" in dreams as much as in conscious waking life.

There are many reasons why dreams are so evanascent. Some are really vivid and long remembered. Some cast doubts whether we are experiencing or experienced, a dream. The answer is the same for both dream memory and the waking memory ; for, dream and thinking during waking, are identical processes. With dreams, there are certain weakening agencies. In dreams there are ideas which the waking mind is unwilling to accept as possible ; those which the ego may not be willing to allow to come forth and so the memory is inhibited. Clear cut ideas cannot be gathered from jumbled together thought pictures.

Of what good is dream or dreaming ? Dreams are the release for many submerged pleasures which the strict ego will not permit of conscious enjoyment. They give the sweetness of stolen pleasure. We often like to escape from our ego ; cast aside the mask of life which we constantly wear during waking periods ; this we do by resorting to drugs ; the place and influence of alcohol in the life of a society is an indication of how much how many want to escape the rigours of ordered, censored, compelled correct life. Imagination during waking is never given the scope that dream holds forth to the personality. Dreams do not have the ill, side-effects of drugs, nor do they cost much. Why should not we dream ? It is for these reasons that the new drug mescaline is likely to have a great number of devotees. Oh ! Would some power the *giftie* give us to dream of what we like, as we like and when we like !

PERSONALIA



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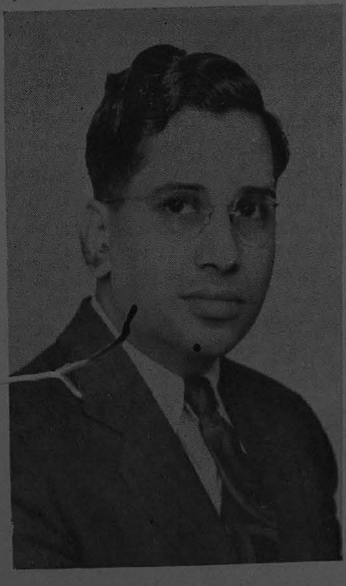

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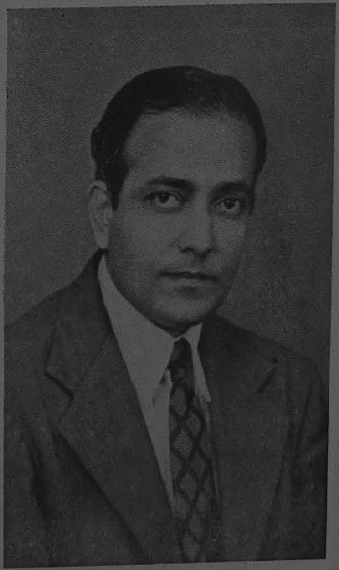

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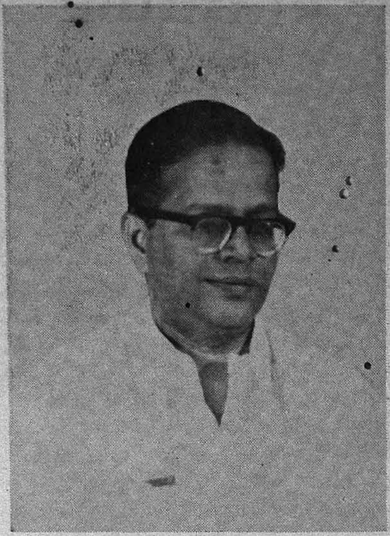

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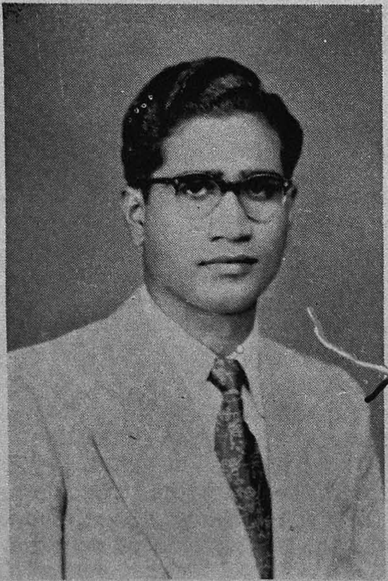

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The Science of Self-Training

By

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YOU, who is reading this, perhaps happen to be one of my students ; perhaps you are a junior colleague. In any case you are known to me and I am known to you. This does matter very much, for what we talk to those who already know us might be more intimate than what we may talk to strangers. This communication is a personal one which I make to you. But it may not be possible to sit by your side and tell it to you because you have to find time and the mood to listen to me at a time when I find the time to say it to you. However, as regards myself, I have now found the time and the mood and am sitting down and writing this for you. When you feel that you are in a mood to listen to me regarding something which I earnestly wish to convey to you, then take this up for reading and read this. Read it slightly aloud if you like ; imagine my familiar voice coming to you from these lines. Let my words and the thoughts and ideas within the words enter you and permeate into you.

I am going to tell you about self-training, not the training of some one or other, but the training of your own self. Your training may concern others to some extent, but it concerns you most of all. This matter is therefore of paramount importance to you, it intimately affects you.

Training naturally involves a trainee and a trainer just as teaching involves a pupil and a teacher. Training is not a natural, normal growing process ; it is an artificially induced process. A shoot unfolds into a green leaf, a bud blooms out into a flower, an embryo develops, a child grows ; these processes are natural processes where life expresses itself in an inherent biological transformation in a congenial environment. The underlying causes and the factors influencing these may be studied and analysed. But the process itself is a spontaneous process, the conscious will of the bud or embryo does not mediate the ushering in of the metamorphosis.

Some people consider that education is a similar unfolding of the individual self whose potentialities are latent and covered over by the encrustation which education removes. They quote the familiar example of the statue being present within the crude marble block and how the removal of the exterior mass reveals the beautiful inner form. I do not personally attach much value to this kind of interpretation of the educational process. Even assuming it to be correct to an extent, the removal of the exterior crust requires an extraneous being to do it. The statue from within cannot chisel itself out of its crust.

Within the egg after three weeks of incubation, the little chick feels an impulse to poke its nose into an air cell beyond the membranous envelope and breathing that air ruffles itself out of the cracking shell. The polar bear, in early spring, sleeping the winter's hibernation, feels a warmth that arouses it from its slumber and shakes itself outside the enshrouding snow. We wake in the morning from sleep, in a moment, without knowing what has awakened us ; we open our eyes into a waking consciousness emerging out from the state of sleep. In all these instances a new feeling enters into the prior set up, a new something either newly born or if it was there previously, freshly awakened, what might have been latent has become patent.

The process of self-training requires necessarily two conscious selves—one self to be trained by the other self that trains ; one the object and the other the subject ; one the clay on the wheel, the other the potter ; one the plastic material, the other the architect. These two selves are contained in every human being. I do not think from my knowledge of Biology that the two conscious selves are present in any organism or other known form of life except man. For convenience we will call these the higher self and the lower self. Man is unique in this respect that he alone has a higher self super-imposed over his lower self which alone the animals have. The values set by these two selves on the various experiences that occur to us are different in some measure, the urges which the two selves have are different sometimes, and naturally their satisfactions and the emotional content of such satisfaction are also different.

The lower self of man is the animal mind with its biological needs and sensory apperceptions and desires and depending on the state of their satisfaction the pleasures and pains which flesh is heir to. We cannot cut these out of life any more than one could think of living without food and nourishment. But just as in the case of feeding there is ample choice of material, so there is ample choice and scope for the satisfaction of the biological needs. Over this basic animal mind or the lower self at some stage of our individual human life the higher self awakens. Once awakened it cannot cease to be. It becomes a co-tenant along with our lower self in what constitutes our individualization. From each one's social and cultural setting it draws its conditioning features and grows, but as it comes into existence of its own accord its conditioning is also only partial. It sets standards of its own. They may run in harmony with or counter to the current of the surrounding social system or even to the individuals' so-called biological needs. Its attitude is always imperious, as if it were something higher by right and hence has every claim to precedence over the activities of the lower self and the physical body.

Self-training is the moulding of the lower self by the higher self. In some, the call of the higher self, however incessant, is not hearkened to by the lower self. Life then goes on in the accustomed rails of biological needs and satisfaction, brutish but yet in human form. But the higher self sooner or later asserts itself and takes over the brute in the man for being tamed. To the extent the higher self takes mastery over the lower self it becomes the experiencer. It shares to an extent the pleasures and pains of experience as part of its life content, but only as a part. Apart from these it gets the notion of a new joy unmixed with its contrariness. This joy is born out of the sense of mastery over one's own life. Instead of being a locomotive running on accustomed steel rails set by Nature, the ego gets the exhilarating feeling of being a driver taking an automobile where it listeth. Soon other things also gradually come in over this sense of free will or sense of one's own creative freedom.

The higher self sets standards for achievement—we may call such standards its ideals. The higher self finds that the lower self and the body are only its tools or instrument of action. To the tune of the set ideals actions follow. These actions sometimes appear to be obviously contrary to the well-being of the body and the lower self. The first need of the body is food. For a particular belief whose value is appreciated only by the higher self one human being fasts his body without food. How unbiological and strange! Sex is a most powerful biological urge. But for a cause which appeals to him an otherwise normal human being chooses the ascetic life. How unbiological and strange! The continuity of individual life is a basic biological necessity. But, for a faith on a conceived notion of what is truth a human being is prepared to immolate himself. How strange! The urges of the higher self, its satisfactions and joys are of a more compulsive and profound nature so that the incidental struggle, and tribulation and pain to the body and the lower self are subordinated, or even set at naught by the higher self.

When we ultimately analyse the motivation of such human actions we find that the sense of values has shifted. Newer values and newer vistas of experience have transformed the biological animal called man into a new human being. From an attitude of adapting as best as possible to a set environment on its terms, the higher self tries to evoke a new creation of its own and to wield mastery over it.

When we try the training of others we often find that we are dealing with inadequate material over which we have no choice nor control. The material is extraneous. When on the other hand we try each one in one's own way to train oneself, then the material is our own selves. The trainer and trainee are both in each of us. The limitations of one being extraneous do not occur, because the two selves though differently possessed of the individuality, are co-tenants and copartners of the same body and mind fabric. If any training has the chance of being effective, it is self-training that is likely to be most effective. If I have an inner conviction of something being good for my welfare, the easiest point for starting the action is to begin with myself. As regards, others, one may or may not be able to convince them regarding the correctness of one's outlook, or the line of action necessary, but as regards oneself the inner conviction itself is the spring of action. A self experiment is always more easily performed than an experiment that requires a second or a third party assistance.

Are you willing to try this adventure of this self-experiment of self-training. Why do I call it an adventure? It has all the thrills of an adventure, it has also its final joy that adventure always brings. Ideals have to be visualized and set. Work and endeavour planned; time budgetted, the working tools of the body and mind must be kept in perfect form, well cared for, well fed, well rested, but always alert to do your bidding. Austerity of life, earnestness of application without sloth and indolence, discrimination of values, a one-pointed attitude to your accepted aim or ideal, an eternal vigilence against lapse, these are some of the essential qualifications one has to cultivate.

Lapses from the set aims and plans are bound to occur. But cheer up and plan and try again. Try seven times like Bruce. One small success will bring another and the habit of success will finally come in, which transforms failure to success and interprets failure as a test of our ability to compass our weakness and make a fresh start. The wise one benefits from a failure; it is only the fool who repeats the same failure without learning the necessary lesson. Once this habit of inner success of the higher self over the lower self is established, then the sense of value of success itself changes. External success or applause loses much of its prior value. One can always face external failure with equanimity if there is the inner feeling of success of the higher self over the lower self. The higher joy has replaced the lower pleasure. What matters who ever does not respect you, if you retain your self-respect, what matters whosoever respects you outside, if you have lost your own self-respect—if you stand convicted before your higher self.

When the higher self and the lower self work in unison, with the higher self at the steering wheel, man's life becomes strangely transformed. Then alone life reaches its full blossoming. Imagine what you were as a little child at school. A lost pencil or a broken slate, you wept over it. Now how you smile over the childhood sense of values. Even so when the higher self sets values to life, the so-called biological values will cease to be omnipotent. *Many of the things that now produce excitement and pleasure or jarring and pain may cease to have the same effect or at least the effects would be much chastened.* But that does not matter. It is not a total loss. Now joys come in with more than ample recompense. Over and above all, the horizon between what we call life and the so-called non-living physical universe becomes the thinnest fading line as sometimes when the sky and the sea blend into one at the horizon.

Often when the panorama of this universe, physical and biological, passes like a vast pageant before our eyes, as the ever working natural laws of cause and effect, where one event is the rational and logical outcome of a prior event, and so on to infinite time before and after, one wonders what the first cause could be that brought about this very law of cause and effect and the first event that began this rolling out. If that was a creativeness, the thing that came out was a creation with a great architect as creator. No reason yet to think that he has since gone to sleep or dissolution! The higher self in its manifest mastery over the lower self seems to echo a faint glimmer of the primaeval architect. Because the higher self that controls your lower self seems apparently to be centred in you, it is not limited, it is of such stuff that has no limit and no centre or spatial location. It just occurs in you and stretches expansive to the rising sun and the most distant galaxy or from the wail of a patient in agony to the cry of the new-born babe.

Often when I sit by a lotus pool and watch the flowers, I see the rhizome taking root in the mud and slush, the shoots coming out of the green water and the blossom opening out its heart to the morning sun. It does this beautiful transformation all unconsciously. The transformation inside the self-trained man is a consciously created change—it is so much more beautiful because it is taking place with complete self-awareness. A part of the great creativeness enters into you consciously working through you. The creative principle is ultimately one. If this conviction comes in you, then this materialized universe and whatever else there be transcidental to it, that once seems to us to be a latent wonder, changes significance and it then becomes an apparently patent wonder.

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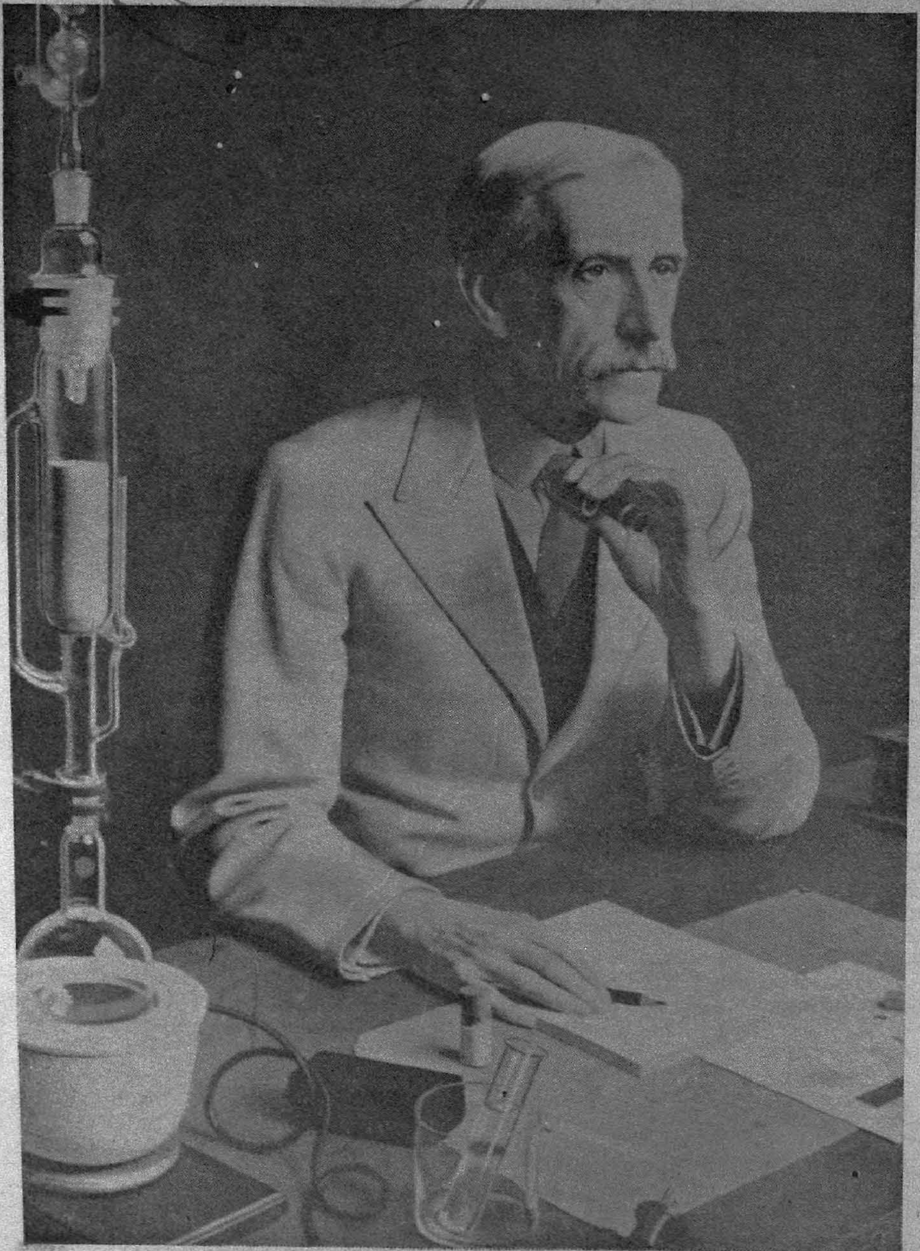

SIR F. GOWLAND HOPKINS (1861—1947).

Sir Frederick Gowland Hopkins,

O.M., D.Sc., F.R.S., F.R.C.P

(1861—1947)

The Discoverer of Vitamins and the Father of Modern Biochemistry

By

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IN the summer of May 1947 as I was walking across the front court of Emmanuel College at Cambridge I noticed the college standard flying at half mast. There were few people about because the days were very warm and most sensible ones spent the time drifting on punts on the River Cam. On enquiring at the Porters Lodge why on such a pleasant and sunny day the flag should mourn some sad event, I was told that a distinguished Fellow of the College had died. And that Fellow was none other than Sir Frederick Gowland Hopkins, the renowned discoverer of Vitamins and the celebrated father of Biochemistry.

I felt rather sad because I thought of the frail old man of eighty-seven with failing vision, clad in an un-buttoned overcoat, whom I used to pass on the stairs on my way to lectures and laboratory at the Dunn Institute of Biochemistry—a very courteous kind old man whom everyone used to speak of with affection and reverence. The self-effacing Professor was not a striking personality to look at but it was a sobering thought to know, that if the science of Biochemistry held its own among the sciences, and had established itself in big new buildings comprising the Sir William Dunn Institute, it was due entirely to the crusading spirit over the years of "HOPPY" as Sir F. G. H. was affectionately known in Cambridge.

Sir F. G. H. was born in 1861. He had lost his father when he was only a child and was brought up by his mother and uncle. He was not very bright at school but showed great interest in a microscope which his father had owned. The plants and animals he collected on the beach held his interest more than formal lessons given to him at school. At the age of ten his family moved to London and he was sent to the city of London school. Except for Chemistry he showed no inclination for study. The countryside, the museum, and libraries were his favourite haunts.

His progress in his studies were not good enough and so he was tutored privately to the age of seventeen. In science examinations he acquitted himself with credit.

His uncle sent him to an insurance business but a family friend having noticed his interest in science, rescued him and put him into a private analytical laboratory as an articled pupil for three years. He acquired a lot of skill but little theoretical knowledge. A small legacy enabled him to pursue his interest in science by joining the Royal School of Mines at South Kensington and by attending classes at University College. He hoped to become a Fellow of the Institute of Chemistry. He did very well and became an assistant to a Home Office analyst at Guy's Hospital. At the age of twenty-seven when most of the students have already qualified and are working as doctors Hopkins decided to study Medicine.

He entered Guy's Hospital and two years later he took a B.Sc. In 1894 he took the London M.B., B.S. and the diplomas of the Royal College of Physicians and Surgeons. He had to choose between accepting a lucrative medical practice and working for a pittance under Sir Michael Foster, then Professor of Physiology at Cambridge. Fortunately for Science he decided on the latter course and to Cambridge he came with Jessie Stevens whom he had recently wed.

It was on the staff of Emmanuel College that Hopkins joined as Supervisor of Medical studies and then as tutor in science. This appointment involved giving personal tuto-

rials to students as well as to combine research with the difficult job of relearning all he had forgotten and also building up and teaching new courses, in the then embryonic subject of Physiological Chemistry. This was no easy task when space was insufficient and equipment lacking. His tutorship was soon followed by his election as a Fellow of Emmanuel College.

The strain of all these duties which Sir F. G. H. took very seriously told on his health and he had to go away for a rest. On his return to Cambridge he was elected a Fellow of Trinity College and appointed Praelector in Biochemistry.

In 1914 Cambridge acknowledged the importance which Biochemistry now claimed among the sciences by creating a chair of Biochemistry and recognised the genius of Hopkins by inviting him to occupy it. Although progress was thwarted by the Great War, Biochemistry nevertheless established itself as a separate subject with its special problems and its own methods, and a great phase of expansion of research began. In 1925 the department moved to the big new buildings at the Dunn Institute and here thanks to the broadminded encouragement of Sir F. G. H., all branches of research (not necessarily his pet subjects only) flourished. Progress was so swift that the Institute became a vast organization and despite its spacious rooms and well-equipped laboratories the place became congested. Here have been well established research workers in Bacterial Chemistry, Chemical Embryology, Invertebrate and comparative Biochemistry, Plant Biochemistry, Biological oxidations and enzyme chemistry. The Institute enjoys international fame and biochemists from all over the world try to make a pilgrimage here at least once in their life-time.

Hopkins' own researches although varied are widely known. First on Gout and Uric acid and the pigment of butterflies, then on amino acids resulting in the discovery (with Cole) of Tryptophane, then on accessory food factors now called Vitamins, then to muscle contraction and Lactic acid (with Fletcher) and finally to oxido reductions and the discovery of Glutathione until once again to the subject of his youth—the protein pigments of Lepidoptera. Hopkins was almost a legend. Many were the stories told of the rat colony which he maintained in an old cellar-like room near the Corn Exchange where much of his classical investigations on Vitamins were conducted in 1910. And about the bottle of acetic acid perched in the sunlight on an old shelf which led to the discovery of Glyoxylic test for Tryptophane. Among his constant visitors and friends were colourful personalities like A. V. Szent Gyorgyi (The Hungarian Nobel Laureate and the discoverer of the constitution of Vitamin C), J. B. S. Haldane (Professor of Genetics at London), and T. S. Hele, Master of Emmanuel College and for sometime vice-chancellor of the University. A constant stream of pilgrims came from all over the world and never left without participating in informal discourses with the students and teachers in the department. There was no formal distinction between junior students and research workers, for in the democratic environment of the University all could question the validity of any scientific statement which experiments had not satisfactorily established as fact.

Sir F. G. H. never put his name to any scientific paper unless he had personally done a considerable part of the manual and experimental work himself. For him it was enough to encourage and inspire but never to interfere with the details which he felt the research workers themselves should work out. Where there was talent he would respect it and allow it to flourish irrespective of the Nationality or creed of the person who showed it. And so at the Institute were students from India and the United States, from China and other countries. For him true leadership was something that came from within, not from above by virtue of authority or position. He never took offence if his personal scientific beliefs were challenged. He looked upon them as another opportunity to verify the experimental evidence, which alone could give validity to his beliefs.

Sixty-five years ago the biologist and the chemist lived in worlds of their own and had little in common. It was Hopkins who by his work, his foresight and his great genius brought forth the realization that the complex chemical reactions that went on in the living cell were an important and fundamental basis for the study of Biology. It is not perhaps as much to his own tremendous contributions to the advancement of the

subject, that the greatness of Sir F. G. H. lies, but more so in his successful attempt to unify and correlate biochemical knowledge so that people could understand the great significance of the complex biochemical machinery of the living cell and its relation to life, reproduction and function. In my experience this ability to put across in a simple and comprehensible way complex scientific observations to which the scientist himself may have richly contributed, signifies a great teacher and a great mind. My own teacher of Physiology, Prof. E. D. Adrian, O.M., N.L., and before him Barcroft and others like A. V. Hill, Sir Henry Dale, O.M., N.L., Sir Alexander Fleming, N L., H. A. Harris and Sir Lionel Whitby are all living testimony to this capacity. However specialized one's work may be, it should be possible to view it in perspective and to be able to put it across in simple language so that all may understand, the essentials of what one is looking for or trying to prove.

From simple things complex materials are made by the living cell. And in the course of these chain reactions energy is liberated to enable the cell to move and feed and multiply. The complex reactions are governed by Enzyme systems and other catalytical agents. Perhaps one day a detailed study will enable us to know a little more about the variations from the normal. Upon such knowledge the conquest of Disease is based.

What Claude Bernard did for Physiology, Sir F. G. H. did for Biochemistry. Honours, richly merited were showered upon him. He was elected a Fellow of the Royal Society in 1905 and in 1931 its President. In 1926 the Royal Society awarded him the Copley Medal. In 1929 he shared with Eijkman the Nobel Prize for Medicine. He was Knighted in 1925 and ten years later was admitted to the coveted civil honour of the Order of Merit, reserved for the chosen few.

When we go about our work in the wards prescribing Vitamins either for oral ingestion or parenteral injection let us remember with humility that there was a time not so very long ago when Vitamins were not known and that it was this frail old Professor experimenting with his rats in a damp cellar who was responsible for our knowledge. Let us not blindly prescribe but get to know more about each of the Vitamins and give them only when there is a definite biological need. If we go about doing things empirically without giving any thought to what we do, and do it without observation or care, as far as we are concerned, Sir F. G. H. would have lived in vain.

To help those young students of Medicine to remember Vitamins more vividly, I cannot but quote a verse written by Prof. C. H. Andrewes, M.D., F.R.C.P., F.R.S., of the National Institute of Medical Research and a member of Emmanuel College. It was a contribution to St. Bartholomew's Hospital Journal when he was a student there, and I hope that he will forgive me for quoting it and not respecting the anonymity of the contributor. I hope too that Dr. L. J. Harris, D.SC., M.D., F.R.S., F.R.C.P., Fellow of Emmanuel College and Director of the Dunn Nutritional Laboratories will not object to your printing the photograph of Sir F. G. HOPKINS, which he has sent me.

THE ABC OF VITAMINS—

A

OH Fine and fat was Ralph the rat,
  And his eye was a clear cold grey.
How mournful that he ate less fat
  As day succeeded day,
Till he found each cornea daily hornier,
  Lacking its Vitamin A
'I missed my vitamin A, my dears,'
  The rat was heard to say,
'And you'll find your eyes will keratinize
  If you miss your Vitamin A.'

B

Now polished rice is extremely nice
  At a high suburban tea,
But Arbuthnot Lane remarks with pain
  That it lacks all Vitamin B,
And beri-beri is very very
  Hard on the nerves says he.
'Oh take your Vitamin B, my dears!'
  I heard that surgeon say;
'If I hadn't been fed on standard bread,
  I shouldn't be here today.'

C

The scurvy flew through the schooner's crew
As they sailed on the Arctic Sea.
They were far from land and their food was canned,
So they got no Vitamin C,
For 'Devil's the use of orange juice'
The skipper 'ad said, said he.
They were victualled with pickled pork, my dears,
Those mariners bold and free.
Yet life's but brief on the best corned beef
If you don't get Vitamin C.

D

The epiphyses of Jemima's knees
Were a truly appalling sight;
For the rickets strikes whom it jolly well likes
If the Vitamin D's not right,
Though its plots we foil with our cod-liver oil
Or our ultra-violet light.
So swallow your cod-liver oil my dears,
And bonny big babies you'll be.
Though it makes you sick it's a cure for the rickets
And teeming with Vitamin D.

E

Now Vitamins D and A, B and C
Will ensure that you're happy and strong;
But that's no use ; you must reproduce
Or the race won't last for long.
So Vitamin E is the stuff for me,
And its praises end my song.
We'll double the birth-rate yet, my dears,
If we all eat Vitamin E.
We can blast the hopes of Maria Stopes
By taking it with our tea.

—C.H.A. (1928)

(*Since this date we have some more vitamins. Vitamin B has been split into* B_1 *and* B_2 *Complex, Nicotinamide, Riboflavine, Pyridoxine, Pantothenic acid, F, Biotin, P, Choline, Inositol, p-Aminobenzoic acid, Folic acid, Streptogenin, Animal protein factor* (S) *and* B_{12}.)

ANNOUNCEMENT

Contributions in the form of articles on Medical & General Subjects, Case-Reports, Cartoons, Photographs etc. are invited for the February '55 issue of the College Journal. The matter may be neatly written or typed on one side of the page. The last date for the receipt of the contributions is January 15th 1955.

GENERAL EDITOR,

Journal of the Stanley Medical College,

MADRAS-1.

Waste not the 'Dead'

By

M. VASUDEVAN, M.S.,

Honorary Assistant Surgeon, Stanley Hospital, Madras.

THE meeting was scheduled to take place at 5. Even though I had reached the hall an hour earlier, I found it filled with innumerable doctors—the young House-Surgeons to the old retired hands and a good number of medical students. While I was searching for a seat, one young gentleman who had a familiar face called me by name and offered a seat next to him. After a circuitous indirect method of conversation I finally recollected he was my class-mate. Poor Fellow, how much he has changed ! My direct question where he was then working precipitated a downpour of his lamentations. I gave him a patient sympathetic hearing. It seems for the past 5 years he had been applying for doctor's jobs in vain and recently after some unsuccessful practice in some village, had finally decided to leave the medical profession. He had just secured a job in a commercial firm as a business organiser.

"Do you know that there are more than hundred unemployed doctors here in this gathering ?" he asked.

He then narrated the story how, responding to the countrywide call 'we want more doctors', 'go to the villages', he went to a village sacrificing all his comforts and education of his children and how the villagers except the village school-teacher and Post-Master concurred with the local indigenous physician-cum-magician, that all the diseases were caused by some spirit* or other and how the old women who alone had the voice in the choice of treatment, submitted the patients to the magicians' chantings and stroking with margosa leaves instead of the latest wonder antibiotics or the healing lancet, and how my friend desperately packed his kit and trudged back home.

The timely "Ladies and gentlemen" from the President saved me from the further pathetic narration which was increasing in tempo every minute. "We have the rare good fortune today," the President continued, "to have Dr. Rudolf in our midst." "Dr. Rudolf after his medical graduation in Barnoff University worked first in the Plastic and Reconstructive unit and a few years later in the tissue culture department of the same University hospital. He was not heard of for the past 20 years during which time, we ascertain from him, that he was working on some experiments in some far off islands. . . . ."

Again my friend started his lamentations. I hushed him up in time to hear Dr. Rudolf. "We should be proud", he abruptly announced. There was pin-drop—no, hair-drop silence. The only hum was traced by many eyes to a ceiling fan which was instantaneously switched off. "Of our monopoly to handle and study the living human body, the master-piece of the master craftsman. The deeper we penetrate the more we marvel at the wonders it reveals with ever more still left unexplored. We aim to see the limit and there to come face to face with its creator.

"We know that the constituents of the body are living cells differentiated according to their varied functions nurtured by nutrient fluids all working in interdependant harmony. When a being dies, the whole body does not really die but only the harmonious balance is upset and stops functioning as a whole. Only when it is devoid of its nutrition and exposed to adverse environments does it really perish. Isolate the frog's heart, it still continues to beat. Isolate a muscle and nerve, it continues to react to stimuli, even though the frog itself is dead hours ago.

"Detach some tissue from a living body. It still lives. Skin could be transplanted. Blood cells continue their lives in the recipient after transfusion. Isolated cells when cultured grow indefinitely. The fibroblast I cultured 21 years ago still continues to multiply. The malignant cell now 20 years in culture has lived and reproduced despite the fact that the patient from whom it was taken had died long ago.

"So also from the 'dead'. Transplant the cornea; it lives in the host. Similarly blood and blood-vessels, even after our imperfect preservation.

"Given the proper nutrition and ideal environments the dead body can be kept alive for any length of time; observing proper aseptic technique and accurate anatomical approximation any of its organ can be transplanted.

"20 years ago I kept one body alive for six months with Rufolin solution† at Barnoff University Hospital with the fond hope of using it as spare parts, but you can well imagine, when pessimistic and superstitious public opinion was an adamant impediment to the execution of my plans, I had no other go but to seek some country where human-beings were more reasonable.

"Having come to know from a sailor friend of mine about the existence of some unchartered islands in the Pacific with probable habitation, I collected my chemicals and appliances and ventured to try my luck and thank God, to-day I have an excellent hospital in Pacifilands run by an efficient team of native staff. The Pacifilands are a group of fertile islands whose inhabitants are what you call barbarians and heathens. But they are a very loving and contended lot, reasonable and co-operative. They have no ambition for limitless possession to envy and plot against each other. They have no fanatical faiths to quarrel and kill each other in the name of human compassion and deliverance. They are not civilised but tolerant to live without wars and prejudices.

"Within six months of my landing there, with the aid of my native assistants, especially Ahkay, we were able to transplant one upper extremity and three eyes. The usual cumbersome and uncertain method of anastomosis was scrapped after the invention of Muffrin‡ a preparation from fibrin, bone-marrow and mucus membrane. It was enough to smear a thin film on the two approximating edges and in 7 seconds the healing was so complete as not to leave any trace of a recent union. With Rufolin for preservation and Muffrin for anastomosis we could transplant any spare part. Only brain gave some puzzling and interesting results in the beginning. The first patient of this series whose brain was pulped by a falling tree, had his transplantation done from a preserved body six months old. After recovering from the anaesthetic, we shook hands and Lo! he got a severe renal colic. Any pressure in his hands led to a colic. The second case though he could see that he walked properly on feet, felt that he was walking on his elbows. Three patients had autonomic disorders. One had the feeling of distended bladder when he really ought to have felt hungry. The second one used to get goose-skin and shivering in some parts of the body while the rest sweated in the tropical sun. The third man experienced brady-cardia whenever the bladder was full.

"The errors were obviously traced to inaccurate approximation of the nerve tracts and all those patients were re-operated and rectified.

"The routine in our hospital was to locate the seat of pathology and if the lesion be beyond the scope of medical treatment, radical resection and immediate replacement.

"An acute shortage of spare parts within 2 years necessitated experiments on substitution of animal organs. The animal organ was treated with 2% Kayol§ in normal saline for one hour to neutralise its antigenic properties prior to transplantation. A man had his right eye replaced from the very tiger that mauled him. He was able to see better at night and is now an efficient night-watchman. One scavenger whose olfactory lobe was replaced by a dog's finds his work not at all unpleasant. But a fisherman when his stomach and intestines were replaced by a goat's could digest only grass and leaves, the fresh problem gave a new impetus to our research. Its fruit is Dolphos 16¶. The animal organ after Kayol treatment was washed in distilled water and incubated in ½% dolphos 16 in human plasma at 98.4° F. under controlled oxygen tension to give it human characteristics. To summarise, almost all organs except the brain which is a poor substitute could be replaced from animals. Work is being done at present to develop the Chimpanzee brain by nutrient baths and spot cosmic stimulations. I do not propose to take your time

in narrating the detailed procedures of the operations and their results as you will be able to read them at leisure after our publication shortly. At this juncture my only message to you is 'waste not your dead'. Thank you."

There was thunderous applause. Someone nudged me at the ribs and said "get up, it is time". I got up with a start and blinked at my young son sitting near me on the bed, smiling. I had dreamed.

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* (1) Ammai—Chinnammai, Periammai, Manalvari Ammai, Vilayattammai, Pottammai, Pottalammai, Erum Ammai, Erangum Ammai, etc.

(2) Dosham—Thristi, Vazhvu, Poochi Kadi etc.

And many more which cover almost all the common illnesses where modern medicine is tabooed.

† Rufolin—Invented by Dr. Rudolf in 1933.

‡ Muffrin—Invented by Dr. Rudolf in 1935.

§ Kayol—Invented by Ahkay in 1936. Prepared from Trifolia, Pacifilanda resins.

¶ Dolphos-16—Invented by the research workers in Pacifiland Hospital, in 1937.

A HISTORY OF SYPHILIS—

In 1495, King Charles VIII of France besieged Naples. In the city was an out-break of a new dreadful disease consisting of wide-spread skin eruptions and ulceration with great destruction of all the tissues causing many deaths and persisting for years in those who survived the initial illness.

This disease was called by the French as the "Neapolitan disease", the Spaniards called it the "French disease". This has been said to be brought to the Spanish occupants of Naples by the sailors of Christopher Columbus who had acquired it in the West Indies.

Fracastorious was the person who named it "SYPHILIS". He published in 1530, the poem entitled "SYPHILIS SIVE MORBUS GALLICUS". Fracastorious (1483-1553) was born at Verona and was well-versed with mathematics, geology and was practising Medicine. Adding to these was the lighter pursuits of music and poetry.

The poem was his first and best known work—tells of a mythical young shepherd named SYPHILUS who incurred the anger of Gods by some act of impiety and was smitten with a loathsome and contagious disease. He says—

"He first wore buboes dreadful to the sight
First felt strange pains, and sleepless passed the night
From him the malady received its name
The neighbouring shepherds catche'd the spreading flame."

—DOUGLAS GUTHRIE : *'History of Medicine'*, (1945).

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The ABC of Atoms and their relationship to Medicine

By

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"THE far reaching effects of the atomic bomb in the political life of the world, currently so important as a subject of debate, stem from the same discoveries which provided Medicine with X-rays for diagnosis and X-rays for therapy, Radium rays and more recently discovered forms of radiation for therapeutic purposes." (Hodges, Lamp and Holt : Radiology for Medical students.)

Before considering the relationship of atom and its constituents to Medicine let us briefly recapitulate the existing ideas about atom and its structure. The atom is the smallest particle of an element capable of existing individually or taking part in a chemical reaction. The atom consists of a positively charged relatively heavy central core, the nucleus around which the electrons rotate in various orbits. The nucleus consists of (1) particles of matter each carrying a unit positive charge called protons and (2) (with the sole exception of the simplest atom, the hydrogen) neutrons, identical particles of matter but without any charge. Almost the whole mass of the Atom is comprised in the nucleus. The charge of the proton is equal to, but of opposite sign to that of the electron. The electron is the elementary particle of negative electricity. Its mass at rest is 9.107×10^{-28} grms. or 1/1845 that of a hydrogen atom. It has a negative electrostatic charge of 4.803×10^{-10} electrostatic units. It is one of the fundamental building stones of the atom. The concentric shells or orbits around the nucleus contain electrons in number always equivalent to the number of protons. Since electrons are particles of unit negative charge, the positive charge in the nucleus is balanced by the negative charge in the cytoplasm of the atom. The electrons are relatively loosely bound to the atomic nucleus. A finite number of specific energy level is associated with each atom. Energy is needed to dislodge an electron from its atom. When the energy supplied is just sufficient to raise an electron from one energy level to another, the atom is said to be in an excited stage. This state is unstable and the electron soon tends to its normal energy level. In doing so, this difference in energy appears in a new form, that of electromagnetic radiation. The chemical reaction of an atom depends on its external electronic system. The electrons on the outer orbit are influenced by physical energy as heat (*e.g.* metals of high melting point as tungsten wire when heated to appropriate temperature in vacuum electrons are emanated from the outer orbit and this is the source of electrons in modern X-ray tubes). Electrons in the inner orbits are influenced by high voltages, when movements from one inner orbit to another results in energy transformations with emission of electromagnetic radiations such as X-rays. (That is how X-rays are produced when high speed electrons strike the target *i.e.* the anticathode.)

The nuclear constituents are incomparably heavier than the electrons in the outer shells so that the weight of the element, the atomic weight is accounted for, substantially by the nucleus, that is the protons and neutrons. As already stated the protons and the neutrons have the same mass. The sum of the numbers of neutrons and protons is known as the atomic weight. The identity of an element depends on the number of protons in the atomic nucleus. Thus an element with one proton is always hydrogen, an element of 11 protons is always Sodium, an element with 82 protons is always Lead and an element with 92 protons always Uranium. Their atomic numbers will be 1, 11, 82 and 92 respectively.

Although an element with 92 protons is always Uranium the number of neutrons in a Uranium nucleus may vary and accordingly may the atomic weight. Elements with the same number of protons but with varying number of neutrons are isotopes of the same element. The existance of isotopes have been known for decades and an isotope is, by definition, a variety of the same element with a different atomic weight, the differing atomic weight being due to differing number of neutrons. The chemical and physical

properties of the isotopes of an element are generally the same. The sum of protons and neutrons in a nucleus is known as the 'mass number'. The Mass number is the method of indicating the particular isotope of the element, for example as Na^{24}, P^{32}, I^{131} etc. Isotopes may be natural or artificial. Some of the artificial isotopes may be radioactive. Before discussing the radioactivity of isotopes, their production and uses in Medicine, it will be interesting and logical to state in brief the history of the progress of our knowledge about radioactivity and the atomic nucleus for the past six decades. In 1896, Henry Bacqurrel while further experimenting on the field which led to the discovery of X-rays observed and proved the existence of similar radiations which occurred spontaneously in the element Uranium. In 1898 Pierre and Madame Curie isolated the naturally radioactive element Radium, this momentous discovery being one of the mile stones that punctuate the onward march of Science. The concept of these new radiations revolutionised the man's understanding of the universe and gave in the hands of medical scientists a very powerful weapon in the fight against malignant disease. In 1915 Albert Einstein conceived his breath taking theory that mass and energy are interchangeable even though twenty-seven years had to elapse before Einstein's theory could be subjected to actual proof. Only when the energies imparted to the particle accelerate them to speed approaching to that of light, will the equivalents of mass and energy be apparent. Due to the brilliant researches of Rutherford, Bohr, Curie Joliot, Compton, Millikan, Lawrence, Livingstone, Formi and Oppenheimer, the means of developing such energies became possible. They are responsible for the discovery of artificially induced Radioactivity. "The sanctity of the atomic nucleus, for centuries believed to be inviolate, has been efficiently and thoroughly ransacked, its stupendous latent energies liberated." These discoveries placed in the hands of man the atom and the hydrogen bombs as well as radioactive isotopes.

A great many isotopes occur in nature. If the elements are bombarded with particles produced by various methods at least one artificial isotope of every known element has been produced. The simplest method of production of artificial isotopes is by forcing extra neutrons into a nucleus.

Natural isotopes and some artificial ones are stable *i.e.*, they do not turn into anything else. Many of the artificial isotopes are unstable and are radioactive. They have either too many protons or too many neutrons in the nucleus to remain in equilibrium and they go on readjusting themselves until they finally turn into some other element or isotope. They do not emit the offending neutron but readjust by emitting other particle and radiations from the nucleus.

(1) They may emit a positron whereby a proton changes into a neutron. So the element must change into next element down the scale of atomic number. Radioactive phosphorus P^{30} which has 15 protons by emitting positron turns into silicon Si^{30} which has only 14 protons in its nucleus.

(2) Second kind of particle which they emit from the nucleus is an electron with a like negative charge. So the element after shedding the electron from the nucleus gains one extra proton and turns into the element, one up in the scale of atomic numbers.

(3) Packets of particles consisting of two protons and two neutrons (alpha particles) may be emitted thus changing the element into another element, two down the numbers of atomic numbers.

(4) In consequence of the emission of various particulate radiations, further energy adjustments may become necessary in order to achieve balance. So electromagnetic radiations of extremely short-wave lengths corresponding to X-rays produced at voltage of several million volts are produced and these rays are the Gamma rays.

Radioactive elements gradually disintegrate or decay. The rate of decay is extremely different in the different elements but for a given element it is fixed and immutable. This decay of radioactive elements occur in accordance with the well-known exponential curve of mathematicians. The period taken for a given quantity of element to fall by half is called 'half life'. Half life varies from one radioactive element to another. Half life of Thorium is 89000 years, of Radium 1590 years, that of radio phosphorus P^{32} is 14.3 days, radioactive Iodine I^{131} is 8 days and $Xenon^{143}$ is 1 second.

Radioactive isotopes are produced by bombardment of nuclear particles mostly with neutrons. Nearly all the radioactive isotopes are produced in the atomic pile the principle of which is as follows :—

When one of the Uranium isotopes is bombarded with neutrons under appropriate conditions, the nucleus actually fissures or breaks into two. This breakage is attended by an enormous outburst of energy. This tremendous outburst includes setting free of a large number of neutrons. A chain reaction is started and the neutrons set free are in their turn available to add to the bombardment of any unsplit Uranium and so the nuclear energy of a comparatively large mass of Uranium can be set free practically instantaneously. This is of course the principle of the 'atomic bomb' which has become one of the greatest engines of destruction.

If such a chain reaction could be started by the fission of a much smaller number of atoms and kept going in such a way that control could be exercised, a very valuable source of energy would be available. This is the basis of the great hope for the commercial utilisation of atomic energy. This is possible and is what happens in the atomic pile. All the artificial radioactive isotopes are produced in the atomic pile. In the atomic pile a controlled chain reaction is kept going indefinitely and the substance or element whose radioactive isotopes we want to produce is put in a suitable container and introduced into the pile when it is subjected to neutron bombardment.

At present, Radioactive isotopes have two chief uses in Medicine : (1) The use of labelled elements or tracers in circulatory, metabolic and other studies. (2) As a therapeutic agent.

(1) A labelled element is an element which contains a proportion of Radioactive isotope so that when introduced in the body it can be traced by detection of its radioactivity. This detection of radiation and its measurement is done by the use of the instrument called the GEIGER COUNTER which can detect a single Beta particle, Alpha particle or a Quantum of Gamma radiation. Radioactive isotope of Iron which has a half life of 44 days is used in making studies of iron metabolism and by means of radioactive Sodium studies of the movements of Sodium in body can be studied.

(2) For therapeutic purposes the most used isotopes at present are Radioactive Phosphorus P^{32} and Radioactive Iodine I^{131}.

RADIOACTIVE PHOSPHORUS OR RADIOPHOSPHORUS P^{32} :—

Radiophosphorus P^{32} has a half life of 14.3 days. It emits only Beta particles and the end products are harmless to the body. In the form of radioactive Sodium Phosphate in solution it may be administered either by mouth or intravenously. But intravenous route is more certain and dependable. If given orally according to Dr. Levitt, the patient should fast twelve hours before administration and the stomach should be allowed to remain empty for further three hours before next meal. During periods of treatment foods rich in phosphorus and iron should be avoided. 70-80% of phosphorus administered orally is absorbed. Radioactive Phosphorus is the treatment of choice in Polycythaemia and in Chronic Leukaemias it should be reserved for patients in whom the effect of splenic radiation has been fully exploited. In polycythaemia massive doses (5 to 7 mcgms.) are given and an interval of not less than three months is allowed between individual doses. In the treatment of leukaemia much smaller doses are used beginning with 0.5 mcgm. The treatment is administered under strict blood count control and if no undue fall of W.B.C. count occurred the dose may be repeated weekly until the desired result is obtained. Since radiophosphorus is taken with avidity by all proliferating cells, sterility may result by its effect on gonads. In reproductive age radiophosphorus should not be given except for malignant conditions which cannot be equally well treated by other methods. There are very few constitutional effects by treatment with radio phosphorus.

RADIO IODINE :—

$Iodine^{131}$ is used in Radiotherapy. It has a half life of 8 days. Its end products are harmless in the body. It is taken uniformly by normal Thyroid and uptake is greater in hyper-thyroidism. Certain carcinoma of thyroid also take up iodine. Radio Iodine

is used in the treatment of Thyro-toxicosis and carcinoma of thyroid. It is administered orally for treatment. Preliminary estimation of the weight of thyroid is necessary. Dose in hyperthyroidism is 100 micro Curies per gram. No radiation sickness in radio iodine therapy has been noticed. Only when tracer doses have been taken up by growths or secondary deposits is this found.

In the year 1954, the fate of humanity is at the cross roads. The day the atom bombs have been dropped at Hiroshima and Nagasaki the atomic age has begun. Successful researches of brilliant scientists aided by the will of divine Providence have placed in the hands of man the tremendous energy locked up in the atoms. It is for him to use or abuse this mighty gift. If abused and the atomic power used for destruction, it may be the end of Homo Sapiens in this Universe as well as the end of what we have known as civilisation. But as Sir Winston Churchill has stated that the very destruction power of Hydrogen bomb may act as deterrant to its use by man against man. Being an incorrigible optimist I believe that atomic power will be used in future only for the benefit of mankind. Commercial and medical utilisation of atomic energy will usher a golden era in this world when the four freedoms for mankind will be secured and the wants will be banished from this globe. Let this ideal be our hope and our ambition.

References :—

I have freely made use of the following books;

(1) Radiology for medical students by F. G. Hodge, I. Lampe and J. F. Holt.

(2) A Hand-book of Radio Therapy by Dr. Walter M. Levitt.

(3) Medical Electronics by G. E. Donovan.

THE DOCTOR—

" Who, when we on life's scene appear
Escorts us o'er the threshold here
And oils and puts our frames in gear———— ?

The DOCTOR.

Who guards our infant life with care
And keeps our tummies in repair
Lest we should climb the golden stair———— ?

The DOCTOR.

When we are sick and down in bed
Who comes with soft and stealthy tread
And says, ' Buck up, you're not quite dead '———— ?

The DOCTOR.

Who lights the exits of old age
Politely bows us off life's stage
And writes the finis to life's page———— ?

The DOCTOR."

—Edgar D. Smith.

* * * * *

Nor-Adrenaline and Circulation

By

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AMONG the many contributions to clinical medicine by Physiology, perhaps the most outstanding is the discovery of Adrenaline, the active principle of the adrenal medulla. The cortical portion of the gland with its multiple hormones indispensable for the existence of the organism remained undiscovered until recent times. Although the exact role of adrenaline in normal Physiology is not known with certainty, the hormone has found a place in every doctor's bag because of its usefulness in a wide range of diseases.

But it was left for Von Euler in 1946 to discover that adrenaline was not a single hormonal entity but a mixture of two distinct hormones—Adrenaline and Nor-adrenaline. They have distinct physiological properties. Adrenaline 'divided' is a more potent weapon in the therapeutic armamentarium than adrenaline 'undivided'.

The humoral concept of transmission of nerve impulses dates from the time of Elliot[1] (1904). He suggested that the sympathetic nerves produce their effects by liberating a chemical substance at their endings which activated the effector cells. It was thought to be adrenaline and indeed for a long time no other substance was thought of in its place. It was considered to be responsible for initiating the impulse in the effector cells, innervated by adrenergic nerves—whether the effect was inhibitory or excitatory. It was Barger and Dale[2] who first suggested that adrenaline may not be the neural hormone of the sympathetic nervous system.

Sczent Gyorgi[3] and his co-workers in 1932 reported discrepancy in colorimetric and physiological tests between adrenaline and the extracts made from bovine suprarenal medulla. They attributed the difference to the presence of a new and more active form of adrenaline. For this they suggested the term NOVADRENINE.

For a long time it was thought that this compound may be the chemical transmitter in sympathetic nerves. The significance of these observations were fully appreciated by Von Euler[4] when he discovered that the specific active agent liberated at the adrenergic nerve terminals is not adrenaline but a substance indistinguishable from one of the other amino bases of the catechol group. This compound, he called NOR-ADRENALINE or adrenaline without the methyl group attached to the N atom. Hence this atom is termed as N.O.R. = N Ohne Radikal. The term is synonymous with *Arterenol, nor-epinephrine* or *non-methylated adrenaline.*

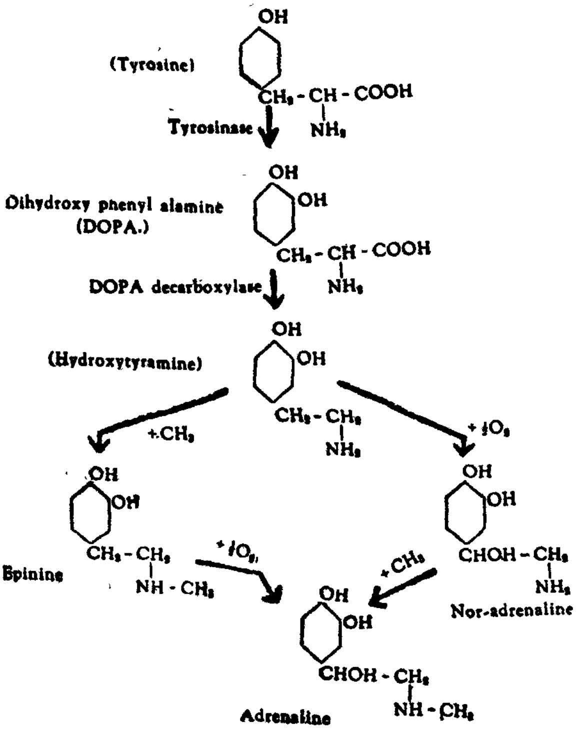
Goldenberg and his associates[5] isolated it from the adrenal medulla. Possibility was then pointed out that Nor-adrenaline might be identical with the *sympathin E of Cannon.* Nor-adrenaline is similar to, but not identical with *sympathin E* because *sympathin E* has no inhibitory qualities while Nor-adrenaline has definite though minimal inhibitory actions. Biological analysis of extracts of sympathetic nerves and organs as well as chemical tests revealed that the sympathomimetic agent liberated had the characteristic properties of nor-adrenaline and not of adrenaline. It is demonstrated that nor-adrenaline was released in amounts varying from 20 to 80% of the total in normal suprarenal glands on splanchnic stimulation. Natural crystalline adrenaline derived from adrenal medulla contains variable amounts of nor-adrenaline, about 10.5 to 18.5%. The suprarenal glands of animals are capable of converting nor-adrenaline into adrenaline by methylation in the presence of adenosine triphosphate. Methyl group is furnished by methionine.

The further step in the development of nor-adrenaline was the resolution of the racemic compound and the preparation of its levo isomer by Tainter and Tullar.[6] The levo isomer is 27 to 60 times more active than the dextro isomer. The naturally occurring nor-adrenaline is in the levo form. Qualitative separation of adrenaline and nor-adrenaline was first achieved by *paper chromatography* in 1950 by James and Kilbey.[7] Its elusion

from the developed chromatogram and the assay of separated amines were done by Crawford and Outschoorn.[8] Amines could thus be estimated in quantities as low as 0.25 microgram per cc. with 75% accuracy.

BIOSYNTHESIS :

The steps occurring in adrenaline biosynthesis are not yet clear. Its probable mode of formation can be briefly postulated as follows :



Nor-adrenaline is dl 1-(3, 4, Dihydroxyphenyl)—2-amino ethanol. Like that of adrenaline, its solution undergoes oxidation in the presence of air, oxygen and sunlight. Nor-adrenaline has a greater resistance to oxidation. There is also a difference in the flourescence in ultra-violet light of the oxidation products of these two substances. The flourescent material *noradrenolutin* formed by nor-adrenaline emits a less intense light than that of adrenaline.

The optimum conditions for stability of nor-adrenaline solutions are (1) Initial pH of 3.6, and (2) Presence of 0.1% sodium metabisulphite. This solution can be sterilised by autoclaving at 115 degrees centrigrade for 30 minutes with negligible loss of activity.

It is the ethylamino chain which is the primary '*pharmacophore*'. The catechol nucleus is simply '*auxopharmacophore*'. The action is not due to the catechol nucleus itself but it contributes to the instability of adrenaline and nor-adrenaline solutions. The biological activity is due to the amino group and the colour reactions are due to the diphenol group. Introduction of the isopropyl group into the side chain causes a marked vasodepressor activity.

OCCURRENCE AND DISTRIBUTION :

The amount of nor-adrenaline varies greatly in different organs but is related to the extent of the sympathetic nerve supply to the organ. The spleen is rich in nor-adrenaline whereas the lung and skeletal muscles contain only small amounts. The placenta which is nerve free does not contain nor-adrenaline. The content in nerve trunks also varies with the amount of sympathetic fibres in them. Foetal suprarenal glands have a higher concentration of nor-adrenaline than adrenaline.

FATE AND DESTRUCTION :

Adrenaline and nor-adrenaline behave in a similar manner. Both disappear from the circulation at the rate of 10 micrograms per minute probably due to (1) complete destruction by oxidative deamination in the blood passing through the liver ; amine oxidase has a greater affinity for nor-adrenaline, (2) Prompt diffusion from the blood to muscular tissue followed by (3) Slower oxidation through adrenochrome stage by cytochrome oxidase.

Adrenaline → Adrenalinequinone → Leucoadrenochrome → Adrenochrome.

A certain amount of catechol derivatives is normally secreted in the urine as *urosympathin* which is a mixture of hydroxytyramine, nor-adrenaline and adrenaline.

EFFECTS ON CARDIOVASCULAR SYSTEM :

Materials used :—Dogs weighing about 4 to 6 kilograms, cats 2 to 3 kilograms and rabbits 1 to 1.5 kilograms were used in this study. Dogs were anaesthetised by *paraldehyde*, administered orally by a stomach-tube in doses of 2.2 cc. per kilogram body weight. For cats *chloralose* was injected in-

tramuscularly at a dosage of 110 mg. per kilogram about 2 hours prior to the experiments.

BLOOD PRESSURE :

The blood pressure was recorded on the kymograph in the usual manner by cannulating the carotid artery. The drugs were injected in a concentration of 10 micrograms (0.1 cc. of 1 : 10000) through the venous cannula inserted into the femoral vein. Their effects were observed on normal, vagotomised and spinal animals. The effect of *ergotoxin* was also tested. The experiments were conducted on normal human individuals aged between 20 and 40 years and also in a few hypertensives. The drugs were injected intravenously and blood pressure was recorded by the *Korotkow's* auscultatory method.

It is found that nor-adrenaline produces a higher rise in systolic and diastolic pressures than adrenaline. The pressor effect is evident for a longer period, about 5 minutes. No *biphasic action* was observed as with adrenaline. Nor-adrenaline exerts a more powerful pressor action on spinal animals. Ergotoxine, in a dose of 600 micrograms per kilogram body weight, which reverses the action of adrenaline only diminishes the pressor response of nor-adrenaline. In vagotomised animals the reflex inhibition of respiration is not noticed.

On human beings nor-adrenaline causes a rise in systolic, diastolic and mean blood pressure. The pulse pressure remains unaffected. There is also a slowing of the heart. Adrenaline produces a rise in systolic and a fall in diastolic pressure with quickening of the heart. The subjects who received noradrenaline injections did not complain of any sort of uneasiness, mental or physical, whereas adrenaline did cause alarm in some.

HEART :

The *myocardiogram* on dogs reveal that nor-adrenaline has no significant cardiac stimulant action. Adrenaline increases the rate as well as the amplitude of auricular and ventricular contractions. The cardiac output as measured by cardiometric technique is increased by adrenaline. Nor-adrenaline did not cause any change. The increase in cardiac output can be produced in two ways : partly, by changes in heart rate and partly by changes in stroke volume. Adrenaline increases the output mainly by enhancing the heart rate and nor-adrenaline reduces the output by the bradycardia it induces.

CORONARY PERFUSION :

Coronary perfusion of the isolated rabbit's heart by a modified *Langendorf method* using oxygenated Ringer-Locke's solution at a constant head of pressure and temperature was performed. The perfusing fluid was collected in graduated tubes for specific periods before and after administration of each drug to determine the rate of coronary outflow. The outflow from the heart is the outflow of fluid passing through the coronary arteries to the coronary sinus and therefore depends on the diameter of the coronary vessels.

Adrenaline is less effective than nor-adrenaline as a stimulant on the isolated heart,

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and the concentration required to produce changes in rate are lower than that required to produce changes in amplitude. Barcroft and Konzett[9] have offered a probable explanation for the different actions of adrenaline and nor-adrenaline. "Probably two factors come into play, first a direct action on the pacemaker and secondly reflex inhibitory action. Nor-adrenaline induces tachycardia when vagi are cut though less powerfully than adrenaline. Both excite the pacemaker, but in the intact animal it is opposed by the vagal reflex inhibition. In the case of nor-adrenaline the reflex is more powerful and so bradycardia results. With adrenaline direct excitatory action predominates."

Both adrenaline and nor-adrenaline dilate the coronary vessels.

The results point out that there are important species differences in response. It remains to be solved whether the differences in action are due to the relative proportions of adrenaline and nor-adrenaline in the medullary secretion from the point of view of an '*autonomic status*'.

SPLANCHNIC VISCERA :

The various splanchnic organs were enclosed in suitable *oncometers* and the volume changes were recorded graphically.

The spleen of the dog is unquestionably a rich source of red blood corpuscles. It responds to adrenaline and nor-adrenaline by forceful contraction. Perfusion of the spleen also proves that both have an intense vasoconstrictor effect. Nor-adrenaline produces a greater contraction of the kidney. On the intestines, adrenaline causes vasodilatation whereas nor-adrenaline has practically no action.

PERIPHERAL CIRCULATION :

The effect of these amines on the peripheral blood flow has been extensively investigated. By *plethysmography,* here it is found that nor-adrenaline produces a diminution in the volume of the limb and adrenaline a transient increase followed by a reduction. The initial increase may be due to vasodilatation in the muscles and the diminution in the volume immediately after may be due to intense vasoconstriction of the skin vessels overbalancing the dilator action.

Perfusion of the limb was done to find out the relative actions of these drugs on the skin and muscle vessels respectively. In the hind limb of the dog with the skin intact there was a reduction in the rate of outflow of perfusing fluid with nor-adrenaline indicating vasoconstriction. Adrenaline also in the same dosage diminishes the outflow showing thereby that the overall action is one of vasoconstriction ; probably due to the intense constriction of the skin vessels. This was further elucidated by repeating the experiment after removing the skin of the limb, when with adrenaline pure vasodilatation is evident. So these provide evidence that nor-adrenaline constricts the muscle and the skin vessels alike, while adrenaline is a dilator of the muscle vessels and a constrictor of the skin vessels.

SUMMARY AND CONCLUSIONS :

Nor-adrenaline causes :

(1) Parallel rise in systolic and diastolic blood pressure with bradycardia.

(2) Minimal cardiac stimulant action with no significant change in minute volume.

(3) General constriction of the vascular system with the possible exception of the coronary vessels.

Peripheral vascular action predominates.

PHYSIOLOGICAL ROLE :

Nor-adrenaline as the chief active principle in adrenergic nerves has assumed a central position in autonomic nerve physiology. If adrenaline is a hormone with a general action, nor-adrenaline may be contrasted as a substance which acts at or near the site of liberation. Nor-adrenaline is released during conditions which involve primarily circulatory needs and the nervous regulation of smooth muscle activity. Adrenaline is needed for adjustments of certain metabolic functions and the regional blood supply to the organs and thus can be regarded as an emergency hormone.

A large field is opening up which may be of interest in the interpretation of certain vegetative disorders in connection with hormonal imbalance.

CLINICAL CONSIDERATIONS :

The peripheral vascular spasm brought about by the widespread constriction of the arterioles is the fundamental vascular alteration in essential hypertension. Since vasoconstriction reduces the capacity of the vascular tree and the cardiac output remains unchanged arterial pressure rises. The same is true of the action of nor-adrenaline and so it may have some aetiological importance in human hypertension. Essential hypertension may be due to failure of methylation of nor-adrenaline to adrenaline and thus excess of the constrictor hormone, nor-adrenaline accumulates at the sympathetic terminals. Intravenous injection of nor-adrenaline causes a greater rise in systolic blood pressure in patients with hypertension suggesting thereby that the vessels in cases of hypertension may react in some abnormal way to the naturally occurring sympathetic neurohormone.

In pheochromocytoma of suprarenal glands, the total amount of pressor hormone secreted in response to stimulus is far in excess of the normal and there is a high percentage of nor-adrenaline.

In peripheral circulatory collapse due to arteriolar dilatation, nor-adrenaline would be the agent of choice for it causes an overall vasoconstriction and increases the total peripheral resistance. Adrenaline would do little to increase the peripheral resistance.

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OLD DOC and midnight calls—

"Once upon a midnight dreary
Old Doc slumbered (he was weary)
Every one in town could hear him snore.
While he lay there sweetly napping
Suddenly there came a tapping
Like a locomotive rapping
Its hard head upon the door.
'Get thee up,' a voice said loudly,
'Come in haste', it added proudly
Like a man who owned a million or much more.
But old Doc, he never heeded
Back to dreamland fast he speeded
For such men as that he needed in his practice nevermore.
For long years that man had owed him,
Not one cent he ever showed him
And this midnight old Doc knowed him
For a dead-beat evermore."

—EDGAR ALLEN POE.

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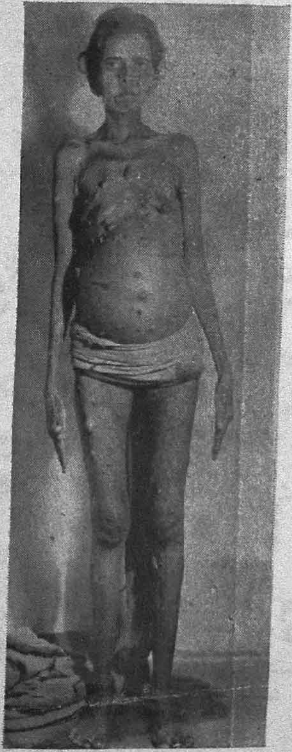

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(See Answers on Page 85)

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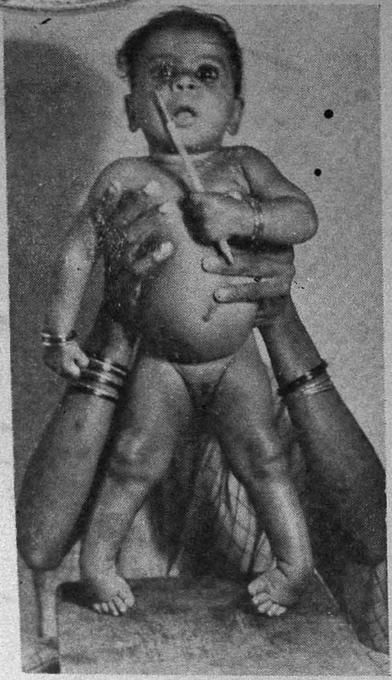

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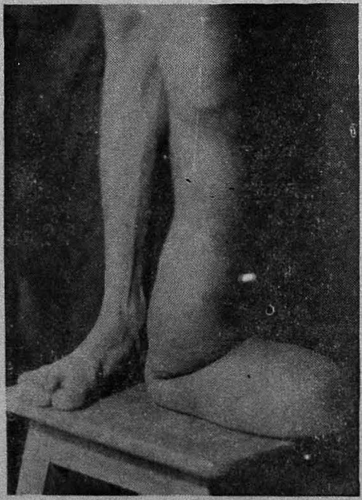


H

(See Answers on Page 85)

The Tongue in Diagnosis

By

AL. ANNAMALAI, M.B., B.S.,
Stanley Hospital, Madras.

THE tongue is an organ by which one can offend or defend. No thought however good or bad could be conveyed to one's fellowmen without this organ. The much boosted silver tongue of an orator and the thick tongue of the mentally deficient do not differ anatomically or histologically.

This organ gives valuable information regarding various diseases, both from the diagnostic as well as prognostic points of view and also in the assessment of treatment. A careful inspection of the tongue during a routine clinical examination is very important. It is rightly called the 'mirror' of the gastro-intestinal tract.

SIZE OF THE TONGUE :

Normally the tongue occupies the floor of the buccal cavity but the size may vary. A large tongue is known as *Macroglossia,* and a small one, *Microglossia.* In inflammation of the tongue, anaemia of the hypochromic variety, myxoedema and cretinism the tongue is large. In the atrophic type of bulbar paralysis the tongue is thin and wasted and aptly described as being like tissue paper. Microglossia may be associated with other congenital abnormalities such as '*micrognathus*'. The wasting may affect only one half as in glossopharyngeal nerve paralysis, the condition being called '*hemiatrophy*' of the tongue. Vascular disorders like lymphangiectasis, lymphatic obstruction, sting of insects and chemical irritants are other common causes of Macroglossia. In Macroglossia the sides of the tongue show the impressions of the teeth and the movements may be difficult and painful.

The tongue is flabby in anaemia and spastic in the spastic type of bulbar palsy.

MOVEMENTS :

Normally the tongue is freely mobile and can be protruded out easily. In macroglossia, movements may be difficult and painful. In 'tongue-tie', there is mechanical obstruction to its movements. In spastic conditions of the tongue as in anterior poliomyelitis, the movement is restricted or absent varying with the degree of spasticity. Fine tremors of the protruded tongue are seen in neurotic individuals. Abnormal movements seen in the tongue in situ are the fine tremors of thyrotoxicosis and toxaemias, and fibrillations in the bulbar type of progressive muscular atrophy. The ease with which the tongue can be protruded out and the time taken give an indication of the degree of toxaemia. Highly toxic patients do not respond at all whereas less toxic patients may respond with a slow and gradual protrusion. The *trombone* movement of the tongue, *i.e.* alternate protrusion and retraction in an elderly individual is pathognomonic of *general paralysis of the insane.* Abnormal, sudden and jerky movements of the tongue in the young are observed in Tic dolourex and rheumatic chorea. Apparent deviation of the tongue is seen in facial paralysis. Deviation of the tongue towards the paralysed side is seen in the early stages of hemiplegia and in glossopharyngeal nerve paralysis.

The appearance of the surface of the tongue has been much emphasised since it is altered in a number of normal and abnormal states of health. The surface of the tongue is rough and striated normally and covered by various types of papillae, which are the end-organs of taste. The appearance of lymphoid vegetations at the posterior one-third of the tongue with or without granular pharyngitis is common in persons who use their voice extensively as among singers and speakers. In ascariasis, the fungiform papillae at the tip and sides of the tongue are red and prominent.—*Couillard's Sign.*

The atrophic, glazed tongue is seen in *pernicious anaemia.* The surface is normally covered by a light coating of fur. The coating is thick in toxaemic conditions. In cases of pernicious anaemia and subacute combined degeneration of the cord the coating is absent. The effectiveness of specific treatment employed may be assessed by the rapidity with which the coating re-

appears. In uraemia the tongue is coated with thick brown fur. Unilateral furring of the tongue is diagnostic of involvement of the mandibular division of the trigeminal nerve, in Trigeminal Neuralgia. The typhoid tongue is typically coated at the centre with the tip and the margins free.

Hairy Tongue after the administration of penicillin lozenges has been reported, though not met with here.

MOISTNESS OF THE TONGUE :

The tongue is usually moist. Excessive salivation seen in various diseases does not come within the scope of this article. Dryness of the tongue which is a reflection of the systemic dehydration, is seen in toxaemias, diarrhoea and cholera, and as a result of the administration of drugs like atropine, or in poisoning such as Datura poisoning. In such conditions the requirement of fluid can be roughly assessed by the amount of fluid required to restore the normal moisture of the tongue. In case of sodium depletion the tongue is dry but the patient does not complain of thirst. In dehydration due to diarrhoea or cholera, where there is both fluid loss and sodium depletion the patient complains of excessive thirst.

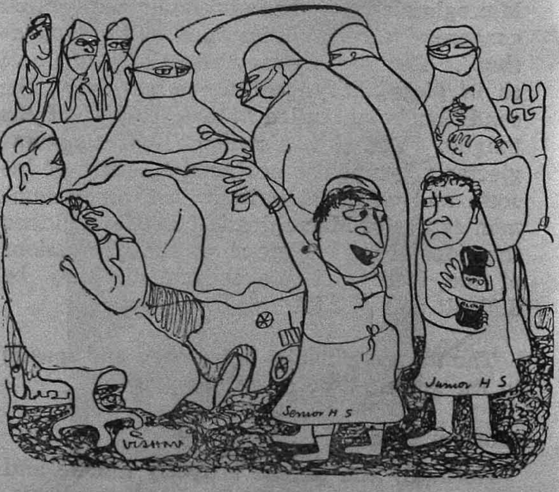
COLOUR :

The colour of the tongue may deviate from the normal in diseases. The raw red or the beefy tongue of pernicious anaemia, the magenta tongue of sprue are indicative of Vitamin B Complex deficiency. A fiery red tongue is also seen after local antibiotic therapy with penicillin lozenges, troches of the tetracycline group of drugs, or after prolonged administration of antibiotics by any route. The chalky white tongue of ankylostomiasis, the pale tongue of anaemia, the blue tongue of congenital cyanotic heart diseases in the young, in particular FALLOT'S TETRALOGY and the pale blue tongue of congestive heart conditions in older patients, as in mitral disease, and other conditions of anoxaemia such as carbon monoxide poisoning, methaemoglobinaemia and abnormal arterio-venous shunts, are the other colours of the tongue useful in diagnosis.

Black discolouration of the tongue may be congenital or acquired. The latter is highly suggestive of ankylostomiasis in the absence of local antibiotic therapy or the ingestion of drugs containing iron. The innocent temporary blackness of the tongue, most often seen in women due to ingestion of betel nuts following an iron mixture seen in hospital practice must not be overlooked. White colouration as seen in leukoplakic patches of secondary syphilis, early carcinoma and corrosive action of carbolic acid must also be remembered. In uraemic conditions the brown pigmentation is due to furring. The tongue may be tinted with all the colours of the rainbow due to the ingestion of coloured sweetmeats and drinks. Fungal infection of the tongue may cause a white or black discolouration according as whether the organism is *Oidium albicans or Oidium nigrans.*

ULCERS OF THE TONGUE :

Painful superficial, multiple or single dyspeptic ulcers, and ulcers due to Nicotinic acid deficiency need no detailed description. Secondary syphilitic muco-cutaneous ulcers, gummata, malignant ulcers, tuberculous ulcers and traumatic ulcers (as in epilepsy and ill-fitting dentures) also deserve careful consideration.



" Don't worry—You will get lots of chances like this when you also get selected for the M.S. Course."

Talking of Jokes

By

S. JAGADEESAN—III Year

FOLKS! When you go through this, you may have an odd feeling that the jokes are somewhat familiar ; but I do claim a certain amount of originality. Almost all the jokes that are prevalent to-day have a common source of origin. Only they undergo, a little metamorphosis according to the needs of time and place.

To any author, the beginning of an article is always a problem. An author, once faced with the problem of finding an interesting opening for his new novel, thought it best to write about anyone of these three things—Romance, High Life and Slang. But he made a hit when he began his novel with the sentence: "The princess said to the prince, 'Damn it! Take off your hand from my lap'."

If we take any standard dictionary and look for the meaning of the word Joke, we find, "witticism, anything said or done to excite laughter". This laughter should be spontaneous, not like some of us laughing artificially just to satisfy the fellow who cracks the joke. There are some people who, just after cutting a joke laugh loudly, thereby stimulating others also to laugh. You would have come across people on the other extreme. They, like one of our professors, never laugh even after cutting a fine joke.

Nowadays students have a very high sense of humour, especially the medicos. Usually fat people never get angry and they have got a good sense of humour. But the converse is not always true. The author has got a high sense of humour but he is lean.

There are some jokes provided by people who are unaware of them. A lady once asked her friend, "Is sterility hereditary?" There is also an element of malapropism mixed with such innocent jokes. An old man came to a doctor with puffed up face and hands and told the doctor, "My hands and face are swollen ; please give me enema treatment". Two friends were talking about a third man. One said to the other, "He is a chronic diabetic and is being insulated twice a week". Can you beat this one for sheer innocence? Three men happened to be talking about a sterile lady. The wise one said, "she is unbearable". The wiser one corrected him saying, "No, no! say she is inconceivable". The wisest couldn't tolerate this and so shouted, "Both of you are wrong. Say she is just impregnable".

One lady wrote to a milk powder manufacturing company, "I want 10 milk powder tins for my children, which I intend to have at cheap rates". A bad phraseology like this always provides good jokes. A lady gave birth to a child and sent a message to her husband in the next city, "Gave birth to a male child. Truly yours" and signed.

Some people have certain standard jokes. They repeat them very often. One of my friends did the same thing with me. I started counting the number of times he had told me the same joke. When he began the joke I shouted "93" and he stopped repeating the jokes for ever.

In London, there is a club by name Jokers' Club with about hundred members or so. They believe in economy of time and so have serialised all the jokes. A member would stand up and say, "The occasion reminds me of 79". There would be a burst of laughter amidst which a second member would stand up and shout, "This 79 resembles 102, but not to the extent of 55 resembling 17". More laughter and more such jokes.

One of my friends used to pretend that he knew everybody under the sun. Mention any name and he will surely say, "Oh that fellow! I know him from Adam." I got fed up with him and said to him one day, "My sister is lying in bed with Endocarditis". As was his wont, he said, "Oh endocarditis! I know him for the past three years". But now he has left off that practice.

Certain people form the targets for all jokes. Whether they are really so witty or so foolish is another question but a good deal of jokes are attributed to them. Take the case of the pitiable Union Minister to whom almost all the political jokes are ascribed. In a party given by the P.M. he was sitting next to a lady guest. Another guest who happened to be sitting on the other side asked her, "Shall I sugar you?" Not to be outclassed in chivalry, the minister added, "Shall I milk you, madam?"

Similarly certain jokes are attributed to Scotland and her people. Two instances as told by English authors reveal their miserly habits, which they may not be having actually. A Scotchman was asked to donate blood to an Englishman. For the first oz. of blood, the Englishman gave the Scotch £10. For the second oz. only £5 and for the third oz. the Englishman, having so much of Scotch blood in him, merely thanked the Scotchman. Another instance on the train speaks badly of Scotchmen. An Englishman and a Scotch were travelling in the same compartment. At each station the Scotchman got down from the train, went away somewhere and boarded the train when it was about to leave. The curious Englishman asked the Scotch the meaning of his action. The Scotch fellow readily answered, "I been to consult my specialist at London and he said I might die at any moment. So I get down at every station and purchase a ticket to the next station."

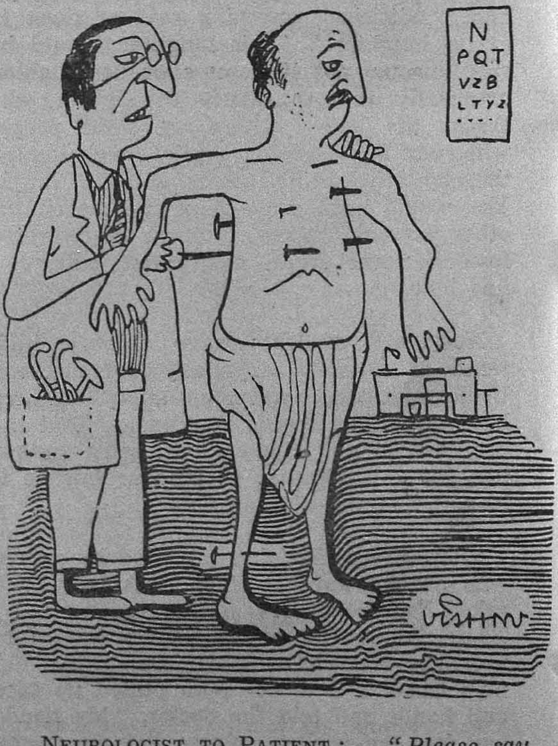
You will be surprised to find some incidental jokes in the text books also. In a grammar book, there is a sentence, "Do not use a preposition to end a sentence with".

Danne Kaye was asked by a reporter, "When did you begin to like girls?" He replied at once, "Soon after I found that they were not boys".

Some are not merely satisfied at having a joke at others expense. They want to try in practice. There are lots of instances which take place on the first day of April. A fellow once took an inch tape and pretended to measure the length of a street. When he came across an old man he requested him to hold the tape for a while so that he would be able to measure the length of the street. He went on unwinding the tape, turned round the corner and handed over the other end to another victim, putting forth a similar request. Then he simply vanished from the spot. You can picture yourselves the two men getting bored and coming across each other after some time.

Bernard Shaw once said, "The greatest joke is, I state facts whenever I crack a joke". But I beg to differ from him in this. Jokes would not be appreciated much unless certain amount of exaggerations and additions are there.

So, folks! Do not be dull witted. Laughter is the best prescription for all. Laugh, Laugh and be merry.



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AESCULAPIUS, the Greek God of Medicine and HYGEIA, his daughter and the Goddess of Health. The symbol of Aesculapius, the CADUCEUS*—two snakes twined on a staff—has survived and is still used as a medical emblem. The name Aesculapius has passed from common usage in the language but that of Hygeia is present in its various forms such as Hygiene, Hygienic etc.*

—*Art:* C. S. RANGARATNAM.

"The King's Evil"

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By

DISCIPLICUS HYGEIAE

KINGS and Queens have always tried to assert their divine powers to do something miraculous, which is not in the reach of ordinary mortals. In their endeavour to show their powers they have laid their hands in many spheres of human activity, including the healing art.

They chose scrofula or struma to demonstrate their prerogative. This choice was indeed very bad in view of the fact that this was woefully common, and woefully incurable. The patients suffering from scrofula had only one cure to look upon—the royal touch. The royal touch was supposed to cure the disease and this supposition gave the disease the name, "King's Evil".

In France this divine attribute of the ability of Kings and Queens to make a miracle cure by touching the victims, dates back to Clovis, the Frank. Louis XIV is said to have "touched" 2,500 persons; and the practise continued in France until 1775.

The first English king to treat the "evil" was Edward the Confessor and as time went on the cure was attended with great ceremony and was incorporated in the liturgy. Each patient received a gold coin called angel or "touchpiece" worth about ten shillings. There was an angel on one side of the touchpiece and on the other a three-masted ship. This talisman was usually perforated at the top so that it could be worn on a ribbon round the neck of whoever have been touched. Everyone seeking treatment was required to take oath that he or she had not previously been touched, which suggests that the gold pieces had something to do with the large attendance at these clinics. Wadd remarks in his "Memorabilia" (1827) that "some were cured of the king's evil, who never had any other evil than that of poverty, which brought more patients and more fame to those royal practitioners than they deserved". The stress on the oath-taking also casts a lingering doubt on the efficacy of the touch. If it really worked it should never have been necessary to repeat it.

Henry VIII's daughter, Mary, was the first woman to touch for the King's Evil. (It was never called the Queen's Evil.) She regarded the ceremony with peculiar reverence, fully in keeping with her character and beliefs. A contemporary letter gives the details :

> "The next day (Good Friday) she went to bless the persons scrofulous: but she chose to perform this act privately in a gallery where there were not above twenty persons. She caused one of the infirm women to be brought to her, when she knelt and pressed with her hands on the spot where the sore was. This she did to a man and three women. She then made the sick people come up to her again, and taking a gold coin—*viz.*, an angel—she touched the place where the evil showed itself, signed it with the Cross and passed a ribbon through the hole which had been pierced in it, placing one of them round the neck of each of the patients, and making them promise never to part with that coin, save in case of extreme need."

The first Queen Elizabeth, who was Mary's half-sister, also "touched" frequently. "A mighty number of her Majesty's most Loyal subjects and also many strangers are daily cured and healed which otherwise would most miserably have perished." Each patient had to be examined by one of the Royal physicians, to certify the disease really was the Evil and to exclude impostors who sought only the gold coin. Usually the diseased parts had to be covered up so that the Queen might not be disgusted at the sight of any revolting features of the disease.

The custom reached its zenith during the Stuart period, and John Browne, in his work entitled "Adenochoiradelogia or Kings-Evil-Swellings" (1654), states that Charles II touched "actually, on an average 4,000 persons every year." The ceremony was often held in the Banqueting Hall in Whitehall, now the United Services Museum. In 1660, the year of his restoration, he touched 6,725 persons, and the grand total, from then

to the end of his reign, was 92,107. These ceremonies were a heavy drain on the revenue of the country. Everything was highly organised and widely publicised. Quite typical is this notice, which was solemnly published in the Public Intelligence.

WHITEHALL, MAY 14, 1664.

His Sacred Majesty, having declared it his Royal will and purpose to continue the healing of his people for the Evil during the month of May and then to give over till Michaelmas next, I am commanded to give notice thereof that the people may not come up to Town in the Interim and lose their Labour.

Even during his exile in Holland, Charles II was so besieged by sufferers seeking relief that on one occasion six persons were trampled to death.

King William was sceptical of the royal power. He had too much sense to be duped and too much honesty to play a part in what he knew to be a nonsense. Even in the few cases in which he "touched" he did it saying to the patient, "God grant you better health and more sense." And since he persisted in his beliefs he was regarded by many high churchmen as either an infidel or a puritan, one "so profane as to sneer at the practice which had been sanctioned by high ecclesiastical authority, the practise of touching for the scrofula."

Queen Anne restored the custom, though she was the last of the royal healers. One of the patients touched by her was no less a person than Dr. Samuel Johnson, he being about two years old. (Boswell tells us that the treatment did not work.)

With the advent of the House of Hanover, the ceremony died a natural death. George I on one occasion declined to touch the child of an English gentleman, referring him to the Old Pretender, saying that he must possess any hereditary powers that belonged to the Stuarts. In fact the Pretender and his son, Prince Charlie, both carried on the practise, the latter touching two children in Edinburgh during the 'Forty-five Rebellion.

That is the last record of the touching by *Kings or Queens or Pretenders for the Evil.* All that remains to-day are the many touch-pieces which were used in the ceremony.

References :—

(1) A History of Medicine—by DOUGLAS GUTHRIE.

(2) "Family Doctor": Vol. 3, No. 6.

"Parasite, or exiled scamp,
Invalid, or homeless tramp,
Life is death
Life is death for these. The best
Would be death. For death is rest."

—(THE PANCHATHANTHRA.)

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The ABC of Migraine

By

N. K. PURUSHOTHAMAN—IV Year.

INTRODUCTION :—

MIGRAINE (Syn : Megrim ; Hemicrania ; sick headache), is one of the types of headache. Headaches are usually classified as follows :—

1. Local Causes :

(*a*) *Extracranial :* Fibrositis ; eye disease ; Herpes zoster ; Tic dolourex ; cranial arteritis.

(*b*) *Cranial :* Dental abscess ; Ear disease ; sinusitis ; disease of skull.

(c) *Intracranial :*

(*i*) *Traumatic :*—Concussion, subdural haematoma.

(*ii*) *Inflammatory :*—Meningism ; meningitis ; Encephalitis ; poliomyelitis ; Abscess ; Syphilis.

(*iii*) *Vascular :*—Migraine ; subarachnoid haemorrhage.

(*iv*) *Neoplastic :*—Tumour ; Pituitary disease.

2. General Causes :—Casual headache ; pyrexia ; Hypertension ; Nephritis ; Polycythaemia.

3. Psychogenic :—Anxiety state ; Hysteria. It is hence seen that migraine is included in the vascular causes of local headache.

Definition.—" A common malady of which the only essential characteristic is recurring intense headaches, which usually develops on waking in the morning, and which, while often unilateral, may be bifrontal, occipital or general."

History of Migraine.—Migraine headaches were known to physicians of very old times. Aretaeus of. Cappadocia (30—90 A.D.). described unilateral headache accompanied by nausea and vomiting. Since it occurred at regular intervals he called it ' Heterocrania '. It was considered to be a serious disease introduced by the demon, Palga. Gradually the metaphysical employment of these supernatural spirits gave way to more scientific theory of humoral imbalance as the cause. Intracranial headache was said to be caused by meningeal irritation due to secretion of morbid humours by the brain. Galen attributed migraine to cortical irritations due to ' black bile '. Since then the causes of migraine as propounded by various authors are changing.

Anatomy and Physiology.—It has been found that the tissues covering the skull are sensitive to pain, especially the arteries. The reaction of the periosteum is somewhat variable. The cranial bones are insensitive. The arteries are very sensitive to pain, especially those forming the circle of Willis. Larger venous sinuses are also sensitive, but to a lesser degree. The parenchyma of brain is insensitive to painful stimuli. Cranial nerves are likewise insensitive with the exception of sensory branches of 5th, 9th and 10th cranial nerves with posterior roots of first three cervical nerves.

Aetiology.—A host of theories has been put forward to explain the origin of migrainous headaches.

(1) The *Reflex Theory.*—This postulates that the pain is secondary to local irritation and that the eye strain associated with attacks is suggestive of an ocular involvement.

(2) The *Central Theory.*—Suggests that disturbances in local circulation of blood or cerebrospinal fluid with changes in the choroid plexuses producing localised intraventricular pressure or direct dural pressure and irritation of the cortex, may be the factor involved.

(3) The *Allergic Theory.*—A high incidence of eosinophilia and allergic manifestations in migrainous subjects has suggested an *allergic* origin for migraine. In 1913, Lesue and Richert, suggested that eggs or milk may produce a migraine attack. And this was the basis of the treatment of migraine, *for example by Ganghan, by avoid*ing those foods which are allergic to the patient, as known by skin tests. Physical and emotional stress often predisposes

to migraine attack. Some authors say that histamine is an underlying factor; desensitization with graduated doses of histamine or a combination of histamine and a non-specific protein, has proved of value as '*Benadryl*' (P.D. & Co.) and '*Pyribenzamine*' (Ciba), have done. It has also been suggested that dilute hydrochloric acid or bile salts may aid in more complete digestion of proteins, thus preventing absorption of allergens.

(4) The *Hypophyseal Theory.*—It has been found that acromegalic patients are often victims of migrainous attacks. The pathogenesis here, is based on the transitory swelling of the pituitary with pressure on the cavernous sinus and surrounding nerves. Other endocrines have also been suspected because of the high incidence of hypothyroidism in patients with migraine and because of the close correlation between onset, and termination of migraine cycle and menarche, menstruation and menopause.

(5) The *Electrolyte Theory.*—Because, before and during an attack there is often rapid weight gain, and afterwards a polyuria, an electrolyte imbalance has been suggested with sodium retention and potassium deficit.

(6) The *Vasomotor or Vegetative Nervous System Theory.*—This was originally suggested by Auzias-Turenne in 1849. This theory, which is the most fertile, suggests that the migrainous attack is due to the compression of trigeminal nerve (especially the ophthalmic division) resulting from accumulation of blood in the sinuses at the base of the brain particularly the cavernous sinus. Du Bois Reymond later distinguished between 'white migraine' due to sympathetic stimulation and 'Red migraine' due to sympathetic paralysis. The pathologic physiology was demonstrated by Wolff and his co-workers, to be increased amplitude of pulsation of the temporal arteries. Vaso constrictors like ergot preparations, adrenalin, caffeine, amphetamine, ephedrine, and pitressin, hence reduce the amplitude of arterial pulsation and hence alleviate the attack. But analgesics such as acetophenitidin, aspirin and codeine relieve the attack by raising the pain threshold and *not* by the vasomotor change. Conversely, amyl nitrite and histamine produce headache by increasing the amplitude of the pulsations.

SEX AND AGE INCIDENCES:

Migraine is found 2½ times more in women than in men. The activity of the female sex hormones than male hormones may account for such a disparity.

Over half of migraine start between 20 and 30 years of age, but others start between 16 and 35. Rarely the start may be in early childhood or in the seventh decade of life.

As regards heredity, 50% of children develop migraine, of which 80% inherit the trait from the mother and 20% from the father.

CLINICAL DESCRIPTION OF AN ATTACK:

In an attack of typical migraine there are four recognised stages:

(*a*) The Prodromal Stage.
(*b*) The Aural Stage.
(*c*) The Attack.
(*d*) The Post-migrainous Stage.

The Prodromal Stage.—During this stage, a variety of depressive symptoms are reported: mental and physical depression, abnormal appetite, sleepiness and dyspepsia have been recorded. Alternatively, some patients experience a period of mental and physical hyperactivity.

The Aural Stage.—While this is in progress patients may experience a variety of symptoms, some of which appear to be rather alarming. Schumaher and Wolff (1941) charted the visual fields of patients who were at the time experiencing the visual aura. On inhaling enough amyl nitrite to lower the B.P., the scotomata disappeared; but when blood pressure rose to the original level, these reappeared. This shows that the scotoma is due to vasomotor changes of the posterior cerebral artery. The homogeneous nature of visual field defects, the sparing of central vision, the peripheral spread of the scotoma and the effect of vasodilators all favour such a mechanism. These symptoms may be transitory, may last for several hours or following a severe attack, may persist for several days. Vasomotor disturbances, paraesthesiae of the face, scalp or extremities, sensory disturbances, olfactory and auditory symptoms may also appear. The aural stage affects other parts of the brain as well, causing symptoms like abnormal taste and

smell ; deafness ; vertigo ; aphasia ; paresis of contralateral side of face or upper limb.

The aural stage is not nearly so common. For example, in F. G. Lescher's series (1952) only 78 cases out of 202 showed this stage clearly.

The Migrainous Attack.—The attack is presumed to occur with the appearance of the headache, which may commence at any hour of the day or night, but it is usual to find it early morning. The intensity, duration and site of pain differs in individuals. This is supposed to be due to difference in, the lesion, *e.g.* when there is severe pain of long duration the lesion will be well developed. The headache may be frontal, occipital or at the vertex, or may be generalised. It is of a throbbing character. An important component in the mechanism of the pain is the sustained contraction of muscles of the head and neck owing to the irritation of upper cervical nerves and such pain may outlive the actual headache.

With the onset of pain, nausea usually appears, and, as the pain reaches the peak of its intensity, vomiting occurs, when the symptoms tend to subside ; atypically, some may complain of waves of pain and later vomiting. The period of maximum intensity of pain is several hours or days. Vomiting may also persist. Migrainous attack may also be complicated by diverse manifestations like pallor, sweating, dryness of mouth, chills, paroxysmal tachycardia, vomiting, diarrhoea and a number of abdominal symptoms, frequency of micturition, symptoms referable to the chest, cyanosis of extremities, paraesthesiae, vertigo and especially in the children, periodical pyrexia. These are due to the involvement of the autonomic nervous system.

The Post-migrainous Stage.—With the cessation of the pain and vomiting, the attack is considered to have subsided, but many patients remain in a stage of exhaustion and depression for several days. The greater and lesser occipital nerves, the branches of the ophthalmic nerve, the cervical plexus, and the posterior primary rami of cervical nerves, exhibit a degree of tenderness which may persist for several days. Cervical rigidity and generalised body soreness may be present during this stage.

THE MIGRAINE LESION :

The lesion is formed by a combination of factors favouring the development of faulty mechanics affecting the shoulder of one side, the cervical spine and the soft structures of the upper cervical region.

The primary factor in the migraine lesion is the depression of one shoulder producing shoulder imbalance. This depression is brought about by the unilateral contracture or over development of sacrospinalis and associated muscles ; or unilateral contracture of the external oblique of the abdomen. By the contracture of these muscles the shoulder is approximated to the iliac crest of the same side.

Due to the depression of the shoulder the long cervical muscles are pulled down, producing a muscular tension which requires adaptive changes in the cervical region. Thus the cervical spine is laterally flexed and rotated ; the deviation of the cervical spine causes the head to be carried to one side and rotated to the opposite directions. This is the typical position assumed by mild torticollis (Wry neck). Apart from the lateral flexion of all cervical spines, the upper three cervical vertebrae exhibit some degree of rotation towards the unaffected shoulder. There is also an adaptive change in the carriage of the head.

The muscular part of the lesion.—The depression of the shoulder introduces a degree of tension in the antero lateral cervical muscles. The muscles involved are : Scalini and sternomastoid of one side on the depressed shoulder. The small cervical muscles which lie between the occipital line and the seventh cervical vertebra tend to undergo contracture because of the approximation of their origins and insertions.

The forward projection of the transverse processes of the upper three cervical vertebrae introduces tension of prevertebral muscles and cervical fascia. The primary effect of the lesion lies in the superior cervical ganglion, whose post-ganglionic sympathetic fibres are taken along with internal carotid artery and branches. Hence involvement of the ganglion causes dysfunction of vasomotor impulses connected with the cephalic part of sympathetic system.

The superior cervical ganglion which is intimately related with the cervical plexus through its lateral branches is thus affected in the migraine lesion and the nerves concerned display irritability and tenderness following an attack.

PSYCHOSOMATIC ASPECTS :

There is an extensive literature on the psychological background of migraine. Wolff states in his account of 46 patients (1949) : 'Personality features lead to frustration, to dissatisfaction about the family, financial or personal status ; and to intolerance of periods of low energy in themselves, or of relaxed standards in themselves and others'.

Barton Hall (1949) says :

> 'Migrainous subjects are said to be often of outstanding intelligence, unusually ambitious, exacting, prone to labour under strong and largely unexpressed drives ; yet retarded in emotional development the explanation of this being an unresolved attachment to the mother.'

The Migraine constitution.—There are two conceptions which have been found to be of value in the understanding of patients in the migraine clinics at Birmingham and Midland eye hospitals.

The first is that it originates from a 'motor' and 'psychomotor' activity which is greater than normal, and which is not balanced by adequate motor and psycho motor relaxation. Hence there is no regular rhythm of alternating rest and activity, which is all important for higher life. Periods of over activity are thus followed by those of psycho-motor exhaustion and these correlate with the different stages of migraine cycle and with certain biochemical changes.

The second conception is that of a tendency to obsessional thinking. Whenever a problem faces the patient, it leads him to the point of exhaustion without other considerations. They are also overconscentious and their reaction to criticism is also much greater.

It is of value to discuss these problems with the patient and to encourage sleep and regularity of meals with rest periods after them. In subjects of a certain psychosomatic constitution, a migraine attack may occur as a specific response to stress.

THE CLINICAL TYPES OF MIGRAINE :—

The following are the more common types of migraine, listed according to the predominant symptoms :

(1) *Common Migraine or Hemicrania Simplex.*—This consists of headache without any other symptoms.

(2) *Ophthalmic Migraine.*—This is a type in which visual disturbances occur before, at the time, or after the occurrence of headache. The typical of the visual disturbances is scotoma.

(3) *Ophthalmoplegic Migraine.*—This type of migraine is always associated with paralysis of ocular muscles. This affects young people usually, and emotional and psychic factors are said to play a part. Oculomotor nerve is mostly affected and very rarely the abducent and the trochlear. The paralysis usually exists for 2-10 days but may be permanent if the oculomotor nucleus itself is affected. Sometimes scotoma occur before the headache and after some days only the paralysis occur. This means that the visual sensory disturbances is due to vasospasm whereas paralysis is due to vasodilatation and gradual compression of oculomotor nerves.

(4) *Facioplegic Migraine.*—This is a rare type in which the headache is found in association with Bell's palsy. If the chorda tympani is involved, a metallic taste is produced , if tensor tympani innervation is involved, roaring or clicking sensation in the ear is produced.

(5) *Abdominal Migraine.*—This may occur with or without headache and is said to be due to over-stimulation of vagus. The usual symptoms are : Tachycardia ; dyspnoea ; abdominal pain ; nausea ; vomiting ; polyuria. It is found in children as well, and in them is manifested by peculiar attacks of fatigue, depression, nausea and vomiting and 'anorexia nervosa'. Fever is not uncommon.

(6) *Psychic Migraine.*—In this there is a predominance of psychic disturbances such as confusion, unreality, depression, compulsions and dual personality.

DURATION :

Varies from ½ hour to 10 days, with an average of 12 hours. The duration is constant in each individual.

TERMINATION :

Usually gradual with accentuation of symptoms, polyuria, hyper-peristalsis and quiet sleep.

DIAGNOSIS :

Migraine is characterised by its periodicity, and its position, culminating in nausea, and vomiting. It occurs against a background of perfect health.

Often the individual describes the pain as *pressure of an iron ring around the head, strokes of a hammer,* pressure of a boring instrument, or a feeling of fulness inside the skull.

Immediately before the attack the patient may feel an unusual sense of well being, mental lucidity and comfort.

A test for migraine.—Schnitker and Schnitker (1947) have devised a test for diagnosing migraine, but it does not rule out any other vascular headache *e.g.* sub-arachnoid haemorrhage.

Principle.—Since it is likely that the mechanism of migraine is due to dilatation, stretching and an increase in amplitude of pulsation of intracranial arteries, it is reasonable to suppose that the giving of a vasodilator should reproduce an attack of headache in a person so prone.

Method.—The person should be free from headache at the time of the test, and no hint must be given as to the doing of the test. Record the blood pressure and resting pulse rate and then two hypodermic tablets of nitroglycerin (1/100 grain or 0.65 mg. each) are then placed under the tongue and allowed to dissolve. For children 1 tablet is used. In the next few minutes the B.P. will fall during which time the patient complains of a feeling of fulness in the head or even faintness. When the B.P. rises to the normal level together with an acceleration of pulse rate, definite headache should start in a patient subject to migraine. In a few individuals the onset is delayed for 30-60 minutes. The pain may quickly be relieved by giving ergotamine tartarate.

This test has been tried in over 200 patients suffering from typical migraine with practically uniformly positive results. The test tends to be positive in those with hypertensive headaches and of course, it is also possible that a migrainous subject develops some other condition of which headache is the presenting symptom. Provided one has an understanding of the pathology and symptomatology of migraine, usually a detailed history is all that is required to make a diagnosis. The pain if often severe and prolonged. A family history of allergic disease, periodicity, good health between attacks and the orderly sequence of the attacks such as the prodromata, aura, headache, vomiting, sleepiness and relief without any apparent cause are important points in diagnosing migraine.

DIFFERENTIAL DIAGNOSIS :

Migraine must be differentiated from the types of headache due to allergy, brain tumours, meningitis, neuralgias, epilepsy, etc. There are also headaches due to hypersensitiveness that cannot be classified as migraine since they do not have cortical features. In differentiating migraine from allergic headaches without cortical features the following classification is of value :—

(1) *Headache with Cortical features :*

- (*a*) Hemicrania with prodromata, aura and post-phase ; also attacks having only aura and post-phase ; or aura alone.
- (*b*) Bilateral attacks with same features.

(2) *Headaches always without sensory, motor and vasomotor disturbances* (Non-migrainous allergic headache) :

- (*a*) Without demonstrable nasal or sinus pathology.
- (*b*) With pathology of nose and sinuses.
  - (*i*) Frontal headaches.
  - (*ii*) Headache associated with seasonal or perennial vasomotor rhinitis.
  - (*iii*) Headaches of general allergic reactions.

Migraine from Allergic headaches.—Headaches other than migraine may be due to specific sensitization and are introduced by the changes of pressure, or toxaemia, resulting from allergic reactions of nose, sinuses and supposedly similar changes in other organs. The presenting symptom however, is not that of migraine as there are no sensory, motor or vasomotor symptoms. Allergic headaches can be ruled out by the relief of symptoms which is obtained when the allergens, to which the patient is sensitive, is avoided.

Migraine from non-allergic headaches.—This include organic conditions like brain tumour or brain abscess as well as pituitary tumours. Often these supervene and complicate the diagnosis. Pituitary tumours, as said by Engelbach, are diagnosed by association with other evidence of pituitary disorders, as osseous, genital, dermal or pigmentary changes.

Migraine from Epilepsy.—Many writings on migraine include the reference made to the association of epilepsy in the family. Gowers believed that migraine and epilepsy are closely related. But recent work by Bray concludes that after a study of several hundred cases he has been unable to establish the association of epilepsy with migraine. He stresses that migraine and epilepsy are quite common and that it is quite possible that the two may co-exist in the same individual. The differential points of interest in symptoms of epilepsy and migraine are :

(*a*) The aurae of migraine are usually visual ; rarely so in epilepsy.

(*b*) During the attack the epileptic is definitely unconscious, which is not so in migraine.

(*c*) Epileptics may vomit, and it occurs usually early in the attack, while vomiting in migraine as a rule develops after several hours of suffering.

(*d*) The characteristic feature of epilepsy is a convulsion lasting from a second to several minutes. But this is not so in migraine. In migraine also epileptiform convulsions occur occasionally but there is seldom definite loss of consciousness.

COMPLICATIONS :

Most common are nervous complications of which the important are : transient neural dysfunction, homonymous hemianopia, aphasia, paraesthesiae, monoplegia, usually occurring during the aura but prolonged in some patients, or even became permanent. Affections of 3, 4, 5, 6 and 7th cranial nerves also may occur. Cases have been recorded where the sight is actually lost in one or the other of the visual fields. Other recorded complications include :

(*a*) Optic neuritis and optic atrophy.

(*b*) Haemorrhage and thrombosis of the retinal arteries.

(*c*) Subarachnoid haemorrhage. The relationship of migraine with intracranial aneurysm has been commented on with much frequency. These patients give a history of recurrent attacks of headache situated at one part of the head for a long time.

SEQUELAE :

These are few but not unknown. Disturbances of vision, in the motor, sensory or sympathetic nervous system or in the psyche are very transient. With cessation of headache, the arteries may become too sclerotic to constrict or to relax. Many of the serious sequelae reported are vascular accidents, whose prodromes are frequently unilateral headaches.

TREATMENT :

I. *General.*—No other disorder requires so much ingenuity, skill and patience, for treatment as migraine. A studious and thorough study of the patient must be made before the treatment, the important points in the study being hormonal, gastro-intestinal, and allergic causes ; fears, anxieties and frustrations. Reassurance is of importance, as many are disheartened by the frequency and severity of the attacks. In female, she should be encouraged and consoled that the headaches usually stop shortly after menopause.

Emotional relaxation is of utmost importance, and this is achieved by avoidance of overwork, regularity in living, and lessening anxieties. Even 2,000 years ago,

> "Socrates would prescribe no physic for Charmides' headache till first he had eased his troubled mind. Body and soul must be cured together." This principle was stressed by Plato also, who said: "If the head and the body are to be well, you must begin by curing the soul . . . . This is the reason why the cure of so many diseases is unknown to the physicians of Hellas because they are ignorant of the whole, which ought to be studied also; for the part can never be well unless the whole is well"

The personality of the individual and the symptoms of the attack must be considered separately. Although most sufferers from migraine will say that their attacks, are causeless, if there is provoking cause it is almost always psychological tension, and so for these individuals regular sedatives and simple psychotherapy are valuable. They should be given *phenobarbitone*, ½ grain b.d. or t.d.s., or if something stronger is required, *Sodium Amytal*, 1 grain at the same intervals may be given. He is urged to take regular week-end relaxation and proper holidays.

II. *Medical.*—(1) *Thiocyanates.*—The frequency with which migraine patients develop hypertension in later years and the relief of migraine during the treatment of hypertension led to the use of potassium thiocyanate in migraine, both as prophylactic and curative. For this, the blood thiocyanate level must be 2.5-8 mg. % from the normal level of 1.5-2.5 mg. %. The average daily dose is 65-200 mg. It has been found that the frequency of the attack can be reduced by 75%, in an average, by maintaining a blood level of 6-12 mg. %.

(2) *Oxygen.*—Inhalation of 100% oxygen through a B.L.B. mask for one or two hours is said to give relief.

(3) *Trichlorethylene* was also tried in migraine. This was suggested by its use in treating trigeminal neuralgia. Usually it is given as an inhalation. Dose: 1 cc.

(4) *Vitamins.*—

(a) *Thiamine hydrochloride* (vitamin B_1) was found to be effective in 65% of cases in doses of 10-30 mg. And likewise,

(b) *Riboflavin* in doses of 5 mg. orally t.d.s. was also tried with some success.

(c) *Nicotinic Acid.*—This and Sodium nicotinate (100 mg. intravenously) have also been tried with some success. Flushing and throbbing of the head follow nicotinic acid therapy. The action on migraine was striking: There was almost immediate sedation following which was a feeling of euphoria. Because of unpleasantness of vasomotor *flushing*, intramuscular injection was resorted to in some cases and in others oral administration of nicotinic acid in doses of 70-120 mg. A vasomotor reaction still occurred, but it was less intense. A maintenance treatment was also instituted in some cases which respond satisfactorily: 60-100 mg. orally in 3 divided doses a day, for several weeks. In cases in which migrains is associated with menstrual cycle, nicotinic acid should be prescribed to be taken during the ten days preceding the menstrual period.

(5) *Periarterial infiltration* of the superficial temporal artery with local anaesthetics (*e.g.* 2 cc. of 1% *procaine*) has been reported to give an immediate relief in some patients and to reduce the frequency of attacks in some others.

(6) *Octin* (methyl-iso-octenylamine), an antispasmodic, has been effective in relieving migraine. The dose is 100 mg. intramuscularly or orally, but not intravenously, and since it produces a rise of blood pressure it should be avoided in hypertensive patients.

(7) *Ergot Preparations*: This, in the main, in much used in the treatment of migraine and is said to be 90% effective in this condition. It is superior to any other agent in arresting the headache. The preparations used are

(*i*) Ergotamine tartrate;
(*ii*) DHE 45 (Dihydroergotamine methanesulphonate);
(*iii*) combination of ergotamine tartrate and caffeine, called '*Cafergot*' containing per tablet, 1 mg. of ergotamine tartrate and 100 mg. of caffeine.

(*iv*) combination of 'Bellafoline', Phenobarbitone and ergotamine tartrate: called '*Bellergal*', the proportions being 1/650 grain (0.1 mg.); 1/3 grain (20 mg.), and 1/210 grain (0.3 mg.) respectively.

The preparations may be taken directly when the pain starts or even during the aura. Orally, 2 tablets (1 mg. each) is allowed to dissolve under the tongue and this may be repeated in 3 hours or every hour. If severe pain is present, patients can be trained to give themselves this drug intramuscularly. In an emergency when shock is present it can even be given intravenously. For those difficult patients who wake up in the morning with headache in full swing, it is better to give the drug prophylactically by mouth.

Intramuscularly the dose is 0.25 mg. initially, as a trial and then a second dose of 0.25 mg. after 4 hours if there is no relief. By this the duration of the disability can be limited to 6-8 hours which may be a great gain for some who are subject to prolonged attacks.

During ergot treatment, the patient must be watched for signs of 'ergotism'. Lately, *ergonovine maleate* orally or the hydracrylic salt intramuscularly, in 0.2 mg. doses have also been tried. This is less dangerous and produces less unpleasant side effects. But it should be avoided in pregnancy because it is an abortifacient.

Contraindications for the use of ergot preparations are: coronary artery disease; Buerger's and Raynaud's disease; hepatic or renal disease; and Vitamin C deficiency.

(8) *Miscellaneous Drugs.*—Other preparations are also used, to ward off the attacks, like:

Phenobarbitone;

Intravenous injection of histamine acid phosphate in saline.

Drugs like urea, calcium lactate, ephedrine benzedrine, *prostigmin* and glucose, and vasodilators have also tried but no measure of success has been obtained.

If it is associated with menstruation, some success may be achieved by giving œstrone, 3 or 4 injections of 10,000 units weekly to inhibit pituitary activity.

A favourite and well-known prescription used in migraine is of 'GOWER'S MIXTURE'. This is suitable for more continuous administration and contains the following ingredients:

R/

Sod. Bromide	gr.	10
Liq. Trinitrini	m.	1
Liq. Strychnine hydrochlor	m.	5
Tinct. Gelsemi	m.	10
Acid hydrobromic dilute .	m.	20
Aqua distillata . . . ad.	oz.	1

Dose: 1 oz. t.d.s.

In the intervening periods of attacks, phenobarbitone ¼-½ gr. B.D. may be given or it may be given as a mixture:

R/

Phenobarbitone sodium . .	gr.	¼-½
Sodium bromide	gr.	7½
Aqua dist. . . . . . . ad.	oz.	½

Dose: ½ oz.

III. PSYCHOTHERAPY: The prevention of a migrainous attack is best accomplished by psychotherapy. The form of psychotherapy may be

> ". . . . analytically orientated interviews by trained psychiatrists, without however, any attempt at formal analysis. Maintenance of improvement by psychotherapy has been sustained over a period of 2 to 4 years. A large number of these patients will respond to the type of psychotherapy satisfactorily which is well within the province of the general practitioner."

IV. SURGICAL MEASURES:

(1) Rowbotham considers that the anteriorly placed headaches can be treated by sympathectomy followed by fractional section of posterior trigeminal root in the middle cranial fossa. For posteriorly placed headaches, a low sympathectomy and the division of one vertebral artery may be done. The vertebral artery of the other side may be stripped. If this fails, upper three roots of the cervical plexus can be divided.

(2) MANIPULATIVE THERAPY.—A recently developed technique, this is done for the 'migraine lesion', which is referred to, earlier.

It is necessary in these cases to effect rapid relaxation in cases where contracture has been produced through trauma or approximation of the origin and insertion of the muscles. It has been proved that '*muscle springing*' followed by '*muscle stretching*' produces beneficial results.

Muscle Springing.—Springing is ineffective when performed on a relaxed muscle and hence it is necessary temporarily to increase the degree of tension. This is done by placing the limb or trunk in a position which extends the muscle and renders it taut. The thumb or fingers are then placed against one margin of the muscle and pressure applied at right angles to its long axis until the muscle springs back away from the pressure.

Another point of the muscle is then chosen and the process repeated till the medial and lateral (or superior or inferior according to location) margins of the muscle and its tendon have been subjected to springing. The process of springing produces a temporary vibration of the muscle, a factor which appears to exert a relaxing influence upon muscle fibres.

Muscle Stretching.—This should immediately follow muscle springing and in order to obtain the maximum response, the following technique may be adopted (H. V. Langley) :—

> "The limb or trunk should be moved in a direction opposite to that of the pull of the muscle. When resistance is encountered, the surgeon should attempt to increase the range of movement by alternately exerting pressure against the limb or trunk, followed by relaxation, which has the effect of alternately stretching and relaxing the muscle. This should then be performed as a resisted movement. The limb or trunk should be moved until resistance from the muscle is encountered, when the patient is instructed to apply a minor degree of resistance as the surgeon exerts additional pressure in an attempt to increase the range of movement."

The treatment of *Migraine lesion* consists of :

I. *Elevation of the depressed shoulder to its normal level.*—Since this is due to unilateral contracture of sacrospinalis and associated muscles, and/or unilateral contracture of external oblique of the abdomen, these two muscles should be relaxed.

II. *Relaxation of tension or contracture of the cervical musculature.*—This is by

(*a*) Springing the scalini muscles,

(*b*) Springing the sternomastoid,

(*c*) Springing the upper fibres of trapezius,

(*d*) Stretching the scalini and small cervical muscles,

(*e*) Stretching the posterior cervical muscles,

(*f*) Stretching the sternomastoid, and

(*g*) Stretching the prevertebral and the associated muscles.

The method has already been described above.

III. *Reduction and Realignment of the cervical spine.*—This is done by the following manoeuvres :—

(*a*) With the patient seated with the spine well supported, upward traction of head is applied by placing the hands below the patient's jaw and base of the skull, and lifting the head upwards. Maintaining traction, the head is turned to one side till resistance is encountered and then a gentle thrust given to the head in the direction of the turn.

(*b*) Head is next flexed towards the unaffected side. With one hand on the depressed shoulder, and the other on the crown of the head (with fingers pointing to the depressed side), the head is pulled to the unaffected side with the hand, while the other maintains pressure on the depressed shoulder.

(c) The palmar surface of one hand is then placed on the vertex of the skull with the fingers directed towards the unaffected ear and the palm of the other hand is placed at the level of the transverse process of the atlas of the unaffected side. Pressure is then applied with the palmar aspect of the metacarpo-phalangeal joint of index finger, to the transverse process, while counter pressure is directed against the head with the opposite hand. The head is next turned in the direction in which is affected vertebrae have rotated and then pressure and counter-pressure are applied to each of the cervical vertebrae in turn.

(d) Standing at the side of the depressed shoulder, the surgeon then places a hand around the posterolateral aspect of the upper cervical area with fingers in contact with the transverse processes and the other beneath the jaw and around the antero-lateral aspect of the neck, with fingers in contact with and overlapping those of the other hand. Traction is applied upwards to the head tilting it to the convex side, while the fingers apply counter-pressure against the transverse processes, urging them towards the concave side.

Lastly, it should be said that migraine is one of those diseases which are stubborn to treatment.

'From the nature of human frailty, remedies operate more slowly than disease, and the body itself is slow to grow and quick to decay.'

—TACITUS.

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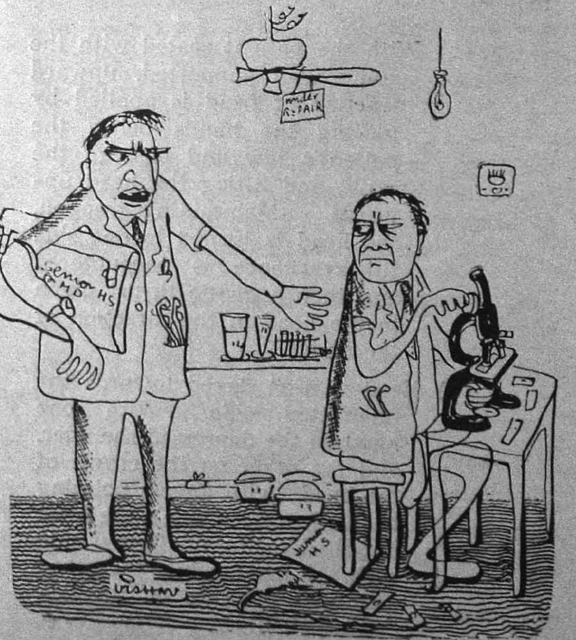

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How to get rid of insect pests?

By

G. LAKSHMIPATHY—III Year.

"WHY", wondered Adam, taking his hand off Eve, and removing the ant from over his apple (Adam's apple), where it had bitten him, (He used to be bitten all over, because of his nudistic beliefs, poor fellow) "did God create these things?" The next question that he put himself was "How on earth am I going to get rid of them?" Possibly he went to complain to God, his creator, and found the latter with a flit-gun in his hand, hovering around Mt. Olympus, or wherever he used to be put up. Anyway Adam had the problem and to-day after thousands of years, we still have the problem and have solved the problem only partly.

"How to remove these insect pests?" is a question that arises in our minds once in a while—as when we lie down on the inviting bed for a refreshing sleep, and find that nearly 1356 ants have done the same thing just ten minutes back with about twenty-five black big bugs for company.

Of course, insect pests are tolerable compared to the human pests. The former you can easily destroy with some powerful insecticide whereas it is not always possible with the latter. (Of course you can drive any fellow out of your house if you chase him with D.D.T. spray, but it won't look nice, and also so much D.D.T. will be wasted.)

Now coming to the problem seriously, I have given below a few original methods in dealing with ordinary pests that we frequently come across in our dwellings. I know also that each has his own methods and some very peculiar too. My grand-mother believed that the best method of killing cockroaches was to close all the windows in the room, and put chillies in the fire. Every one will start sneezing and poor grand-father used to say that it was not a method to be sneezed at. The cockroaches wept and wept and finally died of dehydration. My friend, a wit, used to say that the best way to kill book-worms, was to keep a bacteriology book in the shelf and by the time the worm came to the middle of the book, it found that it was surrounded by numerous bacteria and so died of some disease or other.

Now I will deal with the insects one by one but those who want more details, better wait for my coming book "The Bug and I".

ANTS—

"Push me in to the well of fire
With worms-chutney let me be fed,
But, Oh God! my one request
The red bad ants off my bed!"

said the poet, under circumstances understood. Ants are the commonest of the insect pests that one comes across. There are a number of varieties among ants from the horrible ants of Africa to the harmless black ones which are now obsolete. The ants are very busy insects which are mostly occupied in collecting food materials, but easily fill in their spare time biting our Meissner's corpuscles.

The well-known method is to trace the ant-column to the hole and spray some D.D.T. into it. I have of course a lot of regard for this insecticide. Even if the Dichloro-diphenyl fails to act the Trichloro ethane is bound to finish them off. But what are you going to do if the ant-column goes up a wall? Unless your room-mate or fellow-boarder is a lizard or a cockroach, (in which case you would have to demolish him also much as you would like to, as it is), it is not possible to find the hole.

Here comes my ingenuity. The ants are able to stick on to the wall by secreting a sticky fluid from their feet and so if you take ant by ant, and wipe off the sticky material with your room-mate's towel, the ants fall off the wall, break their necks and die off.

BED-BUGS—

These are the worst insect pests that we know of excepting the few like Boa-constrictor or the flying snake. It reminds me of the story of a patient who said during the routine examination that he could not sleep a wink. "Insomnia", the boss told the students, "may be due to some psychological cause or pathological as in Pneumonia, Deli-

rium Tremens, or heart disease or morphinism. Why, my dear fellow, are you not able to sleep?" "Bed-bugs" said the patient to the falling doctor. Unless you are a bug-bear yourself, you can never bear the bites of bugs.

The layman puts his cot in the sun and thinks them killed. But what actually happens is that a few rickety bugs, which were not biting out of fear that they won't be able to escape the scratching finger, because of their bow-legs, get a lot of Vit. D and join the healthy gang of blood suckers.

My method, being a medical student, is very scientific. Catch a bug alive and bleed it and analyse the group. Suppose it belongs to the same group as you, change the cot. If not, wait and watch. When the bug with some other blood group (most of them are B group) bites you, there is incompatibility, haemolysis, cyanosis and death.

SILVER-FISH—

These are always found behind photo-frames and calendars. Only the male silver-fish are found behind the Madhubala calendars in the men's hostels. The usual method employed in killing these is to take the photo frame carefully out, and throwing it off, or spraying some deodorant (sorry, the disinfectant) behind it. But the silver-fish immediately enter their picturesque apartment, *viz.*, the structure of the frame.

My method is based on the result of a psychological study of this insect. It is found that these silver-fish are jealous of gold-fish. So right away you start to develop a friendship with some rich fish-collector. Now, keep the fish bowl you have taken (the owner might be fishy about it, but you don't care) from him, near the frame. The silver-fish get jealous, and jump to conclusions. As this takes place at a fairly good height, they find that they have jumped to a CONCLUSION after all.

TERMITES—

These usually invade the room in the rainy season. That is probably their mating season and so they take things light, and at night they circle around the light bulbs, get dizzy and fall on the back of our necks. What the people usually do is to hold a bucket of water under the bulb and allow ants to fall in the bucket and kick it. (Kick the bucket, I mean.) But unfortunately, this has become known in their world and so they take compulsory swimming lessons and so reach the sides of the bucket safely, but for the loss of a wing or two, which they grow easily.

I am afraid, my plan is limited only to the hostlers. All cannot be provided with a bucket each to hold above their heads because, then the overhead expenses will be too much. What to do? Ask the fourth member to hold a lighted torch in his left hand, and put out all the lights. The flies naturally crowd around the light. Now give the fellow all his belongings to be held with the right hand, and ask him to clear out. By a single method you get rid of two pests.

CATERPILLARS—

These are not very common, but any way in case you go and dwell in a cool, mountainous place, it is better to know. Let us say you find a live caterpillar crawling on your fore-arm, what do you do, immediately after the shriek? If you are a very patient man, you can wait for the caterpillar to turn in to a butter-fly, whence it will fly off. Or, immediately you put some hair-remover on its body. The hairs fall off, and it becomes an earth-worm and so falls on the ground.

LICE—

These usually lodge and board on hairy heads. Men are unusual victims. My suggestion to them is, grow a long beard. Following Newton's third law (third, I think . . My knowledge of chemistry is poor) they come down, and crawl all over the face, and now you cut it off. (I don't mean the face, . . . both serve the purpose any way.)

Unless she has Adrenal virilism, the above method is not practicable in a woman. So what can the poor woman do? Let her sleep outside her room, under a tree preferably in the cold season without any bed-sheets. Soon she catches a cold in the head, and the lice get infected quickly because they are put up there. "Things have come to a head" they keep saying. Now, the lady continues to sleep outside under the same conditions for two more weeks, by the time either the lice or the lady gets double Pneumonia and dies off.

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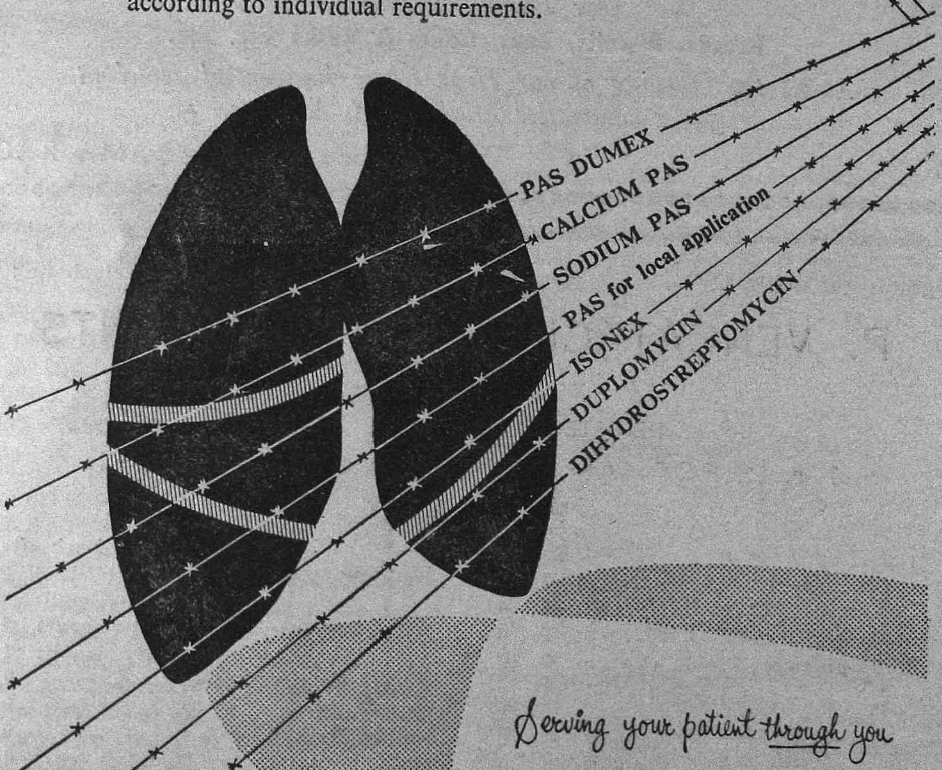

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Is there a Neuro Motive Force - N. M. F. - in Humans?

(A BROWN STUDY)

By

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THE phenomenon of fatigue is always explained away with respect to the muscles. It is further said to be a blocking of the motor impulse to the end plate with the accumulation of sarco-lactic acid during exercise and the small tears that develop in the muscles under stress. Is this the whole truth or are physiologists only partly right? The physiologists are also well agreed that regular training and exercise develop much endurance and resistance to fatigue. As a matter of fact, the effect of exercise on humans can be readily summed up as follows:

The studies of Dr. Borne at the Yale University and the brilliant analysis of Sneider go to show that—

1. There is improvement of the muscles themselves — bigger, better and with a higher proportion of glycogen and creatinin.
2. There is a better adjustment of the respiratory and circulatory systems.
3. There are better adjustments in the neural systems.
4. There is improvement in social, ethical and emotional values.
5. There is better end-plate transmission.
6. There is better co-ordination and use of the muscle groups.
7. There is improvement in the acid-base problem.
8. The oxygen debt is increased. Sneider has shown that 250 cc. is the oxygen consumption (metabolism measured by the oxygen consumption during exercise) of an untrained man and which he can increase up to 600 cc. but whereas the trained athlete can increase it to 4,000 cc.

The above shows what regular exercise can do, but throw very little light on the neuromuscular relationship. When the minute innervating nerve of a muscle is cut, the muscle becomes useless and starts withering away as is best evidenced in cases of polio. On the other hand if the muscle is hacked without injury to the nerve, it tends to rebuild itself. The theory that muscle wastes away due to disuse is very thin as there are cases of persons lying abed for years and yet maintaining healthy tissues. Again, particular cases of athletes and non-athletes provide amazing human performances of endurance and speed. Napoleon is said to have ridden horses for twenty-four hours and at the end was ready to give commands. The performances of long distance runners like Nurmi, Emile Zatopek and others baffle the physiologists. It is said of Zatopek that for the marathon race, he warms up by running one mile. The case of Nurmi was explained away by the fact of his possessing an enlarged heart but in the case of others who have eclipsed him, no such evidence is forthcoming. Asked about this, a senior professor of Anatomy coined the expression hyper-ventilation. Again let us suppose a group of athletes are trained under identical conditions (health, nutrition, age etc. remaining the same). Will all of them perform equally well? Impossible of course. Again the phenomenon of second wind is not much in evidence these days of staggering long distance running performances.

One calm, balmy day, reclining on my easy chair, I began to chew the cud of my imagination. All the above I mentally reviewed and suddenly thought why there should not be a neuromotive force analogous to electromotive force. So long as the E.M.F. in the batteries last, work is done, provided of course the conducting wires and the end mechanism were intact. Once the E.M.F.

gets exhausted, work also stops. Can this not also apply to the humans? Every human being is a complicated machine. The initiative, drive, performance, etc., is dependant on the N.M.F., the individual possesses. Nutrition and exercise may build and improve the nerves (conducting wires) and the muscles (performers) but can the N.M.F. be built up that way?

Is the N.M.F. dependant on heredity, environment and nutrition? If at all the postulation is right, how this is brought about in the human body? Why is it even the strongest of animals like the lion and the tiger are unable to survive in uncongenial surroundings in spite of feeding whereas history provides instances of men not only surviving tortures, hunger and unbelievable odds but of overcoming them to return to a normal life. Do the Association areas, the so-called silent and latent areas of the cerebral cortex of the Homo Sapiens provide this N.M.F.? How odd that what the physiologists have termed the most unexcitable portion of the human brain, should provide the most exciting thing, the N.M.F.?

I woke up with a start. My baby sister had climbed up the easy chair and started a violent reflex by clutching hold of my nose besides making pleasurable gurgling sounds. The tired eyes of a man of forty-five met the liquid blue eyes of a babe of fifteen moons. Was it my imagination that I saw a stare of bold challenge in them?

"There has been a marked decline in the incidence of gonococcal Salpingitis since my student days."

CASE REPORTS

Bronchogenic Carcinoma

(AUTOPSY REPORTS & REMARKS)

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By
NAIR

CASE No. 1 :—

CLINICAL HISTORY :

A MALE aged 40 years was admitted on 29—9—1952 for fever and pain in the chest on the right side—duration 3 months. On examination, there was very little air entry in the right mid-zone and a few rales were heard over the right base. Respiratory sounds were fairly normal on the left side.

X-ray chest showed deviation of the trachea to the right, a diffuse opacity covering almost the whole of the right lung field and miliary mottling of the left lung—the Radiological diagnosis was carcinoma of the right lung with secondaries in the left lung.

The chest pain increased in severity and had to be kept mitigated by repeated injections of morphia till the patient's death on 28—10—1952.

AUTOPSY NOTES :

Body is that of an emaciated, anaemic, male, aged 40 years having slight cyanosis and clubbing of fingers. The superficial lymph nodes are not enlarged.

On opening the chest 6 oz. of straw coloured fluid is found in the left pleural space. The right lung is hard and can be separated from the chest wall only with considerable difficulty. A few lymph nodes in the anterior mediastinum are enlarged.

RESPIRATORY SYSTEM :

Trachea : Contains mucopurulent sputum. The tracheo-bronchial lymph nodes are enlarged and firm.

The right lung weighs 2 lbs. 6 oz. and the left 1 lb. 5 oz. The right eparterial bronchus is stenosed, its lumen barely admitting the tip of the little finger. On sectioning the lung, greyish white nodular masses of varying size are found throughout the upper and middle lobes. A greyish white growth is also found encircling the eparterial bronchus and constricting its lumen. A few small nodules are seen in the lower lobe (Fig. 1).

The left lung has a small hard greyish lump in its apex and the pleura over it is thickened.

Heart : A cylindrical mass ¾″ in diameter is seen protruding into the left auricle through the pulmonary vein, suggesting the direct extension of the growth in the lung through that vein.

The spleen, liver, kidneys, stomach, intestines, brain, bones, thyroid, testes, and pancreas are normal.

Suprarenals : The left suprarenal is enlarged and spherical, weighing 2½ oz. It is cystic to feel and the cut section shows red necrotic tissue.

The right suprarenal, though appearing normal in size and shape, on its cut surface shows a small greyish white nodule.

SUMMARY :

1. Bronchogenic carcinoma of the right lung with secondary deposits in the left.
2. Direct extension of the growth into the left auricle through the pulmonary vein.
3. Secondary deposits in both suprarenals.

HISTOLOGICAL FINDINGS :

1. *Lungs :* Carcinoma of the lung—of the adenocarcinomatous pattern (Fig. 2).
2. *Suprarenals :* Shows carcinomatous infiltration (Fig. 3).
3. *Mediastinal lymph nodes :* Shows carcinomatous infiltration.
4. *Spleen, liver and kidneys :* Show Chronic Venous Congestion.

CASE No. 2 :—

CLINICAL HISTORY :

On 14—5—1953, a male aged 45 years was admitted into the surgical wards for difficulty in micturition diagnosed as due to stricture urethra. This was treated by periodic dilatation of the urethra, with beneficial results. During his stay in the hospital he developed cough, rise of temperature particularly in the evenings and pain over the right side of the chest. On examination diminished movement, dullness on percussion, feeble breath sounds, increased vocal fremitus and resonance were found on the right base.

Investigations :

Total RBC	= 4.2 million/c.mm.
Hb	= 65%.
W.B.C.	= 12,400/c.mm.
Sputum	= Negative for A.F.B.
Blood Urea	= 25 mgm. %.
Blood for V.D.R.L.	= Negative.
E.S.R.	= 15 mts. :—50 m.m. 45 mts. :—128 m.m.

X-ray chest at this stage suggested the possibility of an area of consolidation in the right mid zone.

In the course of a few days, the liver became palpable and nodular. Clinical and Radiological evidence pointed to a right sided pleural effusion which was confirmed by repeated aspiration of blood-stained fluid. The fluid showed no malignant cells histologically. Subsequent X-rays showed breaking down cavities in the right lung and small opacities in the left lung suggesting a tuberculous infection. In the course of a week he developed small nodules in the skin about 1 c.m. in diameter over the trunk and both thighs. Biopsy of one of the nodules showed malignant cell infiltration. A possible diagnosis of cancer lung with secondaries was thought of. The patient expired on 27-8-53.

Autopsy findings : An ill-nourished male of 45 years having multiple skin nodules over the trunk and thighs. The nodules are 1 c.m. in diameter and cut section is greyish white.

The right and left pleural cavities contain 12 and 7 oz. of blood-stained fluid respectively. Adhesions are seen in the upper part of the right pleural cavity. A whitish nodular mass is seen near the root of the right lung. The hilar lymph nodes are enlarged and hard.

Lungs : Right lung weighs 1 lb. 10 oz. and the left lung 1 lb. 8 oz.

The lower lobe of the right lung is completely collapsed. On the cut surface, immediately above this collapsed lobe there is a massive fleshy growth 3″ in diameter, whose continuity with a main bronchus could be defined and established. The bronchus itself is narrowed by the growth though its inner surface is smooth. The growth shows no areas of necrosis or haemorrhage.

The left lung shows both on its pleural surface and on the cut surface multiple miliary nodules.

Heart : Nil abnormal.

Liver : Weight 4 lbs. 13 oz. On the external surface multiple nodules varying in size from that of marble to that of an orange are seen. Some nodules show umbilication. Cut surface shows similar growths—appearance suggestive of secondary deposits in the liver. No cirrhotic changes are seen in the liver.

Kidneys : Each weighs 6 oz. Cut surfaces of both the kidneys show multiple secondary deposits, about 1 c.m. in diameter.

Bladder : Shows evidence of cystitis. The wall is thickened. Rest of the viscera are normal.

SUMMARY :

1. Bronchogenic carcinoma in the right lung with multiple metastatic deposits in the left lung and hilar lymph nodules.
2. Bilateral haemorrhagic pleural effusion.
3. Secondary deposits in the liver, kidneys and skin.

HISTOLOGICAL FINDINGS :

1. Lung : Adenocarcinoma lung (Fig. 4).
2. Adenocarcinomatous infiltration in the liver, kidneys (Fig. 5) skin and mediastinal lymph nones.
3. Bladder : Shows evidence of cystitis.
4. Rest of the viscera : Nil abnormal.

REMARKS :

During the last 12 years (1942-53) 8 cases of lung cancer were autopsied in the pathology department of the Madras Medical College, Madras and 4 of them occurred during the past 3 years. Seven patients were males and the remaining one female. Our youngest patient was a boy of 13 and the oldest was 67 years old. In our series most of the cases were in the age group of 40-50 years.

In two of our cases, the primary growth in the lung was completely missed clinically since the metastasis in the brain caused the main presenting complaint and a diagnosis of cerebral tumour was made. Failure to take an X-ray of the chest resulted in this erronous diagnosis. Willis urges emphatically that in all cases of cerebral tumour, a skiagram of the chest is imperative.

We have seen metastasis in the liver in 3 cases, in the orbit in 1 case, in the suprarenals in 2 cases, in the kidneys in 1 case, while the mediastinal lymph nodes were involved in 5 cases and the opposite lung in 4 cases.

In the first case presented here, there was no difficulty in diagnosing the condition clinically. An interesting finding in this case is the direct extension of the growth via the pulmonary vein to the left auricle. The case also shows secondary deposits in the opposite lung, mediastinal lymph nodes and in both the adrenals. Willis states that in 30—40% of cases both adrenals are the seat of metastasis and they are usually a symptomatic.

In the second case presented, the patient came to the hospital for a urethral stricture and while in hospital developed temperature and lung signs which was clinically and radiologically diagnosed as a case of tuberculosis. In the course of a few days the liver was enlarged and some nodules appeared in the skin. The skin biopsy pointed to a possible diagnosis of brochogenic carcinoma with secondaries in the liver and skin. It is seen that the primary growth in the lung itself is a small one, while the secondary deposits in the liver are massive. Such an observation is in conformity with various authors. Tumours of the circumscribed group are often silent, and when they give rise to symptoms, they do so by involvement of other structures such as the chest wall, or as a result of matastasis, and only late in the course of the disease ulcerate into the bronchus. Such growths when they undergo necrosis and the necrotic material is coughed up, not infrequently give rise to an incorrect diagnosis of lung abscess or tuberculosis.

All carcinomas of the lung arise in the bronchial epithelium (Barnard 1926). The basal layer of the bronchial epithelium can reproduce columnar ciliated and goblet cells of normal epithelium ; in addition, by metaplasia can also reproduce stratified squamous epithelium. This totipotency of the basal layer offers an explanation for the pleomorphic character of bronchogenic carcinoma which has been often mislabelled by the pathologist as mediastinal sarcoma, pleural endothelioma, oat cell sarcoma etc. Now we know that all are bronchogenic carcinoma. Most of them present an adenocarcinomatous pattern.

All statistics of all countries clearly point out that bronchogenic carcinoma is on the increase. Is this increase real or apparent ? The same factors that are responsible for the increase of cancers in general *viz.*, the longevity of the people as a whole, " cancer is the legacy of preventive medicine "—must have contributed to the increased incidence of cancer lung also. Bronchogenic carcinoma may or may not be on the increase, but our knowledge about it has certainly increased in recent years and the modern aids of diagnosis like radiography, bronchoscopy and the demonstration of malignant cells in the sputum and pleural fluids by special staining methods are bringing to light more number of cases which would have otherwise been labelled as bronchitis, tuberculosis or lung abscess. Besides, certain special factors are adduced in addition, which have a special bearing on cancer of the lung.

Smoking, tarring of roads, inhalation of soot and the fumes of automobiles and pneumokonioses are said to be causes of this rise. But it is doubtful whether any one of these causes are the culprits at least in our country. Tarred roads can be said to be almost non-existant compared to the size and population of India and in many places an automobile is still an object of curiosity.

Silicosis has been experimentally claimed to have produced pulmonary cancer. It is interesting to note that we have convincing and adequate proof to show the causal relationship between silicosis and pulmonary tuberculosis among the workers at the Kolar Gold Fields in Mysore State, but no authentic information is available regarding the exact incidence of lung cancer among this class of people.

The evidence against smoking is statistically impressive. Among non-smokers lung cancer is consistantly low, 0.3—0.4% in large series of cases analysed by different workers, like Muller (Germany), Wyender and Graham (U.S.A. 1950) and Doll and Hill (England 1952). But the population in this country who indulge in heavy cigarette smoking for long periods—more than 20 cigarettes a day for over 20 years—must be negligibly small. The long continued inhalation of soot and smoke by the urban population is also an equally unimportant factor. Hence for our country at any rate, it may be confidently asserted that the incidence of lung cancer is influenced by neither the cigarette smoke of civilization nor the chimney smoke of industrialisation !

The high incidence of lung cancer in the male sex, seems to indicate that certain occupational and other environmental factors must operate in the production of bronchogenic carcinoma. There is great scope for research in our country and I do hope that one day we will solve the riddle of lung cancer.

My thanks are due to my admirable teacher, Professor D. Govinda Reddy, who brilliantly guided me in conducting these autopsies and whose enchanting musings in the mortuary remains ever green in my memory. I am also indebted to my friend and colleague Dr. Shetty who gave me invaluable help in connection with the preparation of this article.

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Case 1

Bronchogenic Carcinoma

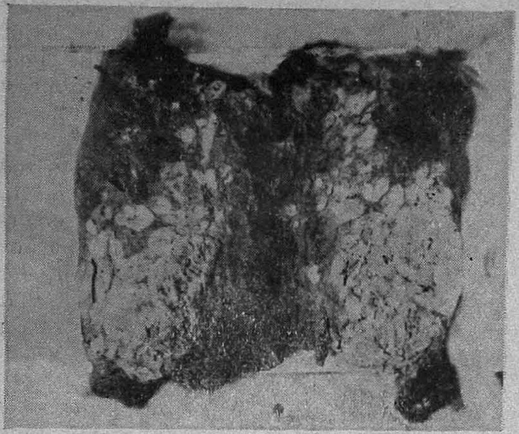

Fig. 1. *Gross Specimen of Bronchogenic Carcinoma.*

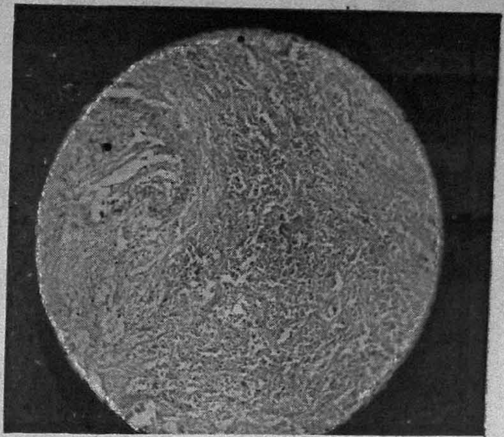

Fig. 2. *Microphotograph of the Lung showing adenocarcinoma.*

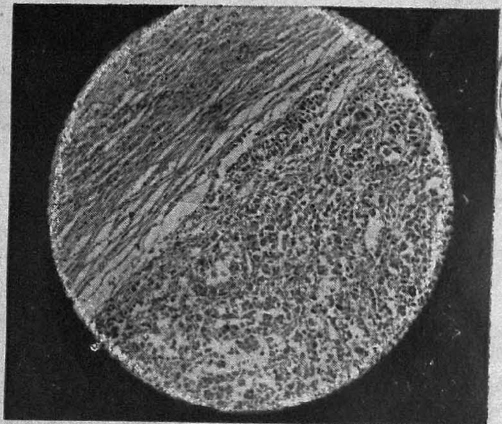

Fig. 3. *Microphotograph of the Adrenal gland showing Adenocarcinomatous infiltration.*

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Case 2

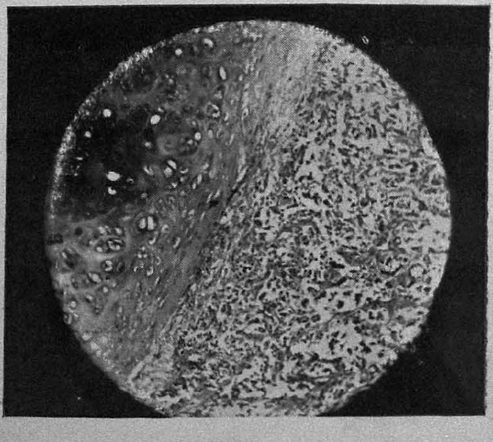

Fig. 4. *Microphotograph of the Lung showing adenocarcinoma.*

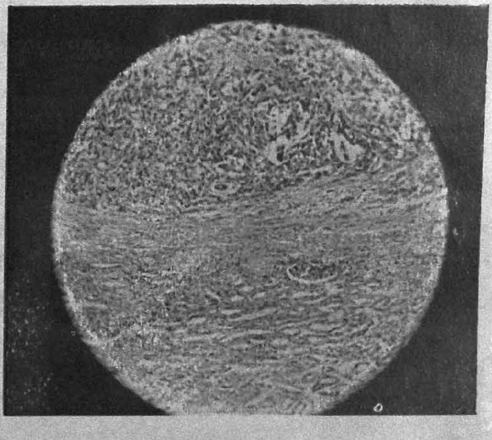

Fig. 5. *Microphotograph of the Kidney showing Adenocarcinomatous infiltration.*

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A case of Spinal Epidural Abscess

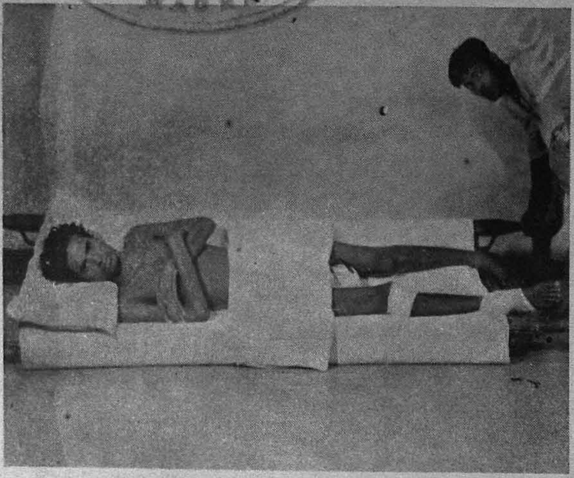

Fig. 1. *Patient MUTHUSWAMY.*

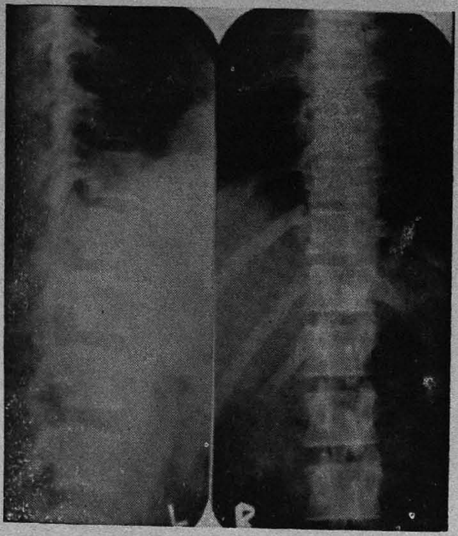

Fig. 2. *Spine X-ray: A.P. and Lateral views.*

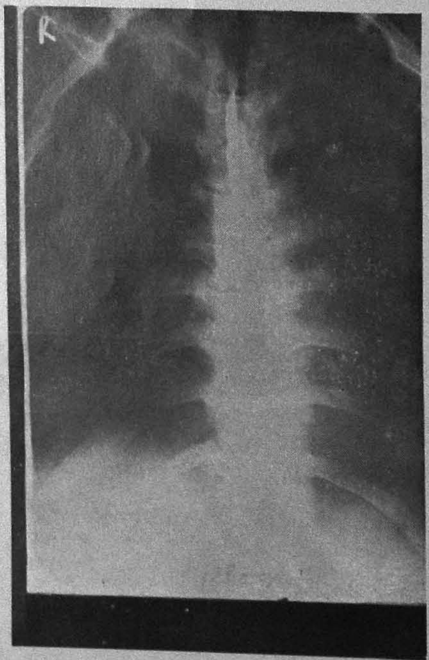

Fig. 3. *Lipiodol Myelogram: A.P. view.*

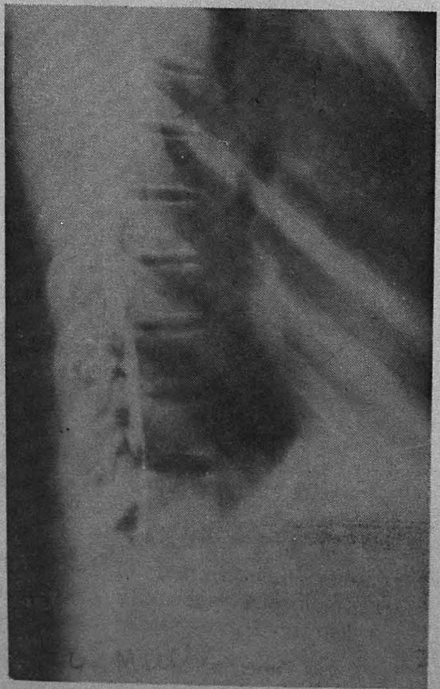

Fig. 4. *Lipiodol Myelogram: Lateral view.*

A Case of Spinal Epidural Abscess

By

G. VICTOR, M.D.,

Government General Hospital, Madras.

MUTHUSWAMY, male, aged 25, was admitted to Government General Hospital, Madras, on 17th July 1954, for inability to use the lower extremities of 3 weeks duration.

Previous illness: Urethritis one year back. Dysentery 10 years back.

History of Present illness: The present complaint started on 19—6—1954 as low back ache followed by rapid onset of weakness and incapacity to use the lower extremities, resulting in paraplegia 6 days later. In addition, he also developed loss of control over bladder and rectum the same day. He ran a continuous temperature for about a week. Since then he has been bed-ridden. On 26—6—1954, he was admitted to Railway Hospital, Trichinopoly, for Acute Transverse Myelitis with retention of urine, and on the 28th was transferred to Railway Hospital, Golden Rock.

CONDITION ON ADMISSION TO GOLDEN ROCK HOSPITAL:

There was flaccid paralysis of both lower extremities, with loss of sensations below the level of umbilicus with a band of hyperaesthesia at the proximal level. Tendon reflexes were found lost in the lower extremities, and there was retention of urine both overflow. Trophic ulcers in gluteal region and back were present. Temperature ranged between 100° and 103° F.

Urine—Few pus cells.

X-ray Spine—Lower thoracic and Lumbar —Nil abnormal.

Blood Kahn—Negative.

Lumbar Puncture done on 1—7—1954 and thick pus aspirated. Culture of pus aspirated grew staphylococcus.

L.P. was repeated on 3rd and 5th instant.

Crystalline Penicillin 2 lakh units was put in.

CONDITION ON ADMISSION TO GENERAL HOSPITAL:

Flaccid paralysis of both lower extremities were noted with wasting of muscles of thighs and legs. Light touch, Pressure touch, Pain, Thermal sensations were lost below the umbilicus; Vibration sense impaired below the anterior superior iliac spine; Joint sense lost in the lower extremities. Plantars were irresponsive, Cremasterics lost, Lower Abdominals lost, Knee and Ankle jerks lost. Involvement of Bladder and Rectum was present. Bed-sores were also present. Temperature on admission was 102° F.

Urine:—Albumin nil, sugar nil.

W.B.C.:—12600/c.mm. Diff. Count: P_{76} L_{22} M_1 E_1.

L.P. done:—58 drops per minute, clear, not under tension. *Queckenstedt's test* negative, 20 cells/cmm.
Total Proteins—100 mgms. %
Globulin— +
Chlorides—700 mgms. %
Sugar—91 mgms. %

X-ray Spine:—No evidence of compression.

C.S.F. VDRL:—Negative.

Blood VDRL:—Negative.

Myelogram:—Spinal block at D_8 visualised. (See Figure.)

Blood Pressure:—98 and 62 mm. Hg.

DIAGNOSIS, TREATMENT AND PROGRESS:

In view of the sudden onset of Paraplegia accompanied by fever, motor and sensory paralysis, disturbance of bladder and rectum, aspiration of pus on attempting lumbar puncture, presence of spinal block as revealed by CSF bio-chemical findings, Queckenstedt's test and myelography; leucocytosis, and a negative serology, a diagnosis of *Acute Spinal Epidural Abscess* was made.

1. Penicillin 5 lakh Units daily intramuscularly was given.

2. R/

Vitamin B_1	mgm.	150
Vitamin C	mgm.	100
Nicotinic Acid	mgm.	100
Riboflavin	mgm.	5
Lactose		q.s.
Fiat Pulvis 3		one t.d.s.

3. 300 ccs. of 'O' group blood given.

Bed-sores became worse and the general condition of the patient was deteriorating rapidly day by day. In view of the considerable delay in presenting himself at this hospital for treatment with added infection, Laminectomy and drainage of the Epidural Abscess once thought of, was given up.

GENERAL CONSIDERATIONS :

Though infection of Spinal Epidural fatty and areolar tissue by pyogenic organism is generally regarded as a rare condition, Spinal Epidural Abscess is a well recognised clinical entity. Suppuration within the spinal epidural space is a frequent cause of Spinal Cord dysfunction. Acute Spinal Epidural abscess is rarely diagnosed before the onset of irreparable damage to the Spinal Cord and the true nature of the process is often discovered only on *post-mortem* examination. Prompt treatment will save the patient from life-long disability or death.

AETIOLOGY :

Infection of the epidural space may arise by direct infection, direct extension, or via the blood or lymphatic streams. Haematogenous infections are derived most commonly from septic skin and subcutaneous lesions like boils, pimples, furuncles ; and respiratory or urinary tract infections may also be probable causes. The development of Spinal Epidural Abscess usually occurs in the presence of poor general hygiene or after spinal injury in the presence of carbuncle or furuncles. Direct infections are also possible from Osteomyelitis of the vertebra, spread from retro-pharyngeal abscess, otitis media, sore throat, acute bronchitis, pneumonia, mastoiditis, phlebitis, appendicular abscess, cellulitis, puerperal sepsis, direct contamination of wounds, and by contaminated lumbar-puncture needle. Direct extension from contiguous structures is the commonest mode of infection. Dandy thinks that some cases result from spread along adjacent lymphatics and mentions two, following carbuncles in the dorsal region, in which the epidural suppuration developed at the same level. There is always a history of pre-existing infection or spinal trauma, or both. Staphylococcus aureus is the usual causative organism. According to Boharas and Koskoff, the streptococcus, Bacillus pyocyaneus, the typhoid bacillus, the pneumococcus, and the gonococcus have also been found in certain lesions.

MORBID ANATOMY AND PATHOLOGY :

Majority of cases of blood-borne infection are located in the upper and mid-thoracic regions. The abscess may be on the anterior or posterior surface of the Cord or to one side. Thus any level and occasionally the entire length of the vertebral canal may be involved. The lesion consists of a variable amount of pus and granulation tissue. Free pus may be found extending over the entire length of the epidural space, from the foramen magnum to the sacrum. Quite often pus gravitates to the lumbar region from a thoracic or cervical lesion. Spinal epidural abscess may be classified into two types : (1) the *diffuse* or *spreading type* ; and (2) the *localised* or *encapsulated type*. The former may be sub-divided into (a) *acute fulminating* and (b) *subacute*. Browder and Meyers recognised two types of Epidural infection : one, "Spinal Epidural Abscess" comprising cases with a fairly acute inflammatory process, and two, "Spinal Epidural Granuloma" with a more chronic, low grade type of inflammatory lesion. In the latter, the evolution is less rapid and more closely resembles that of Cord compression from a tumour. Rarely there may be a circumscribed lesion, confined to one or several segments of the Cord. Watts and Mixter have described Epidural Granuloma consisting of a mass of sclerotic tissue with little or no pus. The course of *inflammation* may be resolution, suppuration with tissue death, or healing with fibrosis.

CLINICAL FEATURES :

The illness follows a fairly constant picture in the progress of the disease and according to Hulme and Dott four stages could be recognised, (1) Stage of spinal ache, (2)

Stage of root pains, (3) Stage of impairment of Cord function, (4) Stage of complete paralysis. The onset is marked by pain in the back. The site of the pain varies with the location of the lesion. If the process is in the cervical region, the pain will be in the back of the neck radiating up to the occiput and down the arms ; if low in the dorso-lumbar spine, the pain will be low in the back with radiation down the legs. It is not relieved by the recumbent posture or even by morphine. The interval between onset of acute infection or trauma and the development of pain in the back varies from one day to three years, and in the case reported by Boharas & Koskoff was about seven months. The pain is often increased by coughing, sneezing, flexion of the neck or of the legs. Tenderness over the spine at the site of the lesion is a constant finding. During this period the temperature is usually elevated. Sooner or later neurological signs or symptoms make their appearance. The interval between the onset of pain in the back and the development of neurological signs varies from two to forty days, and in the case of Boharas & Koskoff, the interval was eighteen days. The most frequent early complaint is tingling or numbness in the legs, followed by weakness of legs and bladder disturbances. Transition from stage 3 to 4 may be only few hours or a day or two. The rapidity with which the paralysis progresses varies but the rule is for a rapid progression to stage of flaccid paraplegia. Quite often headache, neck rigidity, and a positive *Kernig's sign* are found. Early involvement of pyramidal tracts occurs. The sensory findings are not as constant as the motor, though most often there will be found loss of all sensations below the level. Early loss of Sphincter control is common. There is a polymorphonuclear leucocytosis and blood culture is often positive. Lumbar Puncture in a well-established case reveals fairly characteristic findings, *viz.*, a Subarachnoid block frequently with *Froin's Syndrome.* Cerebro-Spinal Fluid shows increase in proteins and increase in cells, mostly Lymphocytes. Occasionally the spinal needle enters the abscess and pus may be aspirated.

DIAGNOSIS :

The relentless pain in the back accompanying the epidural abscess is of the greatest importance in diagnosis. A sign of value in early diagnosis is tenderness on percussion of the portion of the spine overlying the abscess, which sign is almost invariably present. Despite characteristic signs and symptoms, early diagnosis must depend on lumbar puncture. The findings of complete or incomplete block, xanthochromia, pleocytosis, increased proteins, and normal sugar should all but clinch the diagnosis. The presence of pus in the epidural space is pathognomonic of spinal epidural abscess.

DIFFERENTIAL DIAGNOSIS :

Review of the available literature reveals that acute spinal epidural abscess could be confused with a variety of neurological conditions. The more important of these are :—

(*a*) *Acute Syphilitic Transverse Myelitis* —Characterised by flaccid paraplegia followed by spastic paralysis, exaggerated tendon reflexes, presence of clonus, extensor plantar response, positive serology.

(*b*) *Acute Febrile Polyneuritis*—with proximal limb muscles affected, cranial nerve palsies, *glove and stocking* type of anaesthesia, no sphincter disturbances, no bed-sores, tenderness of muscles.

(*c*) *Acute Anterior Poliomyelitis*—Characterised by paraesthesiae, slower progress of paralysis, absence of sensory loss, lymphocytosis in the spinal fluid with polymorphonuclear, leucocytosis in the blood.

(*d*) *Acute Infective Radiculitis or Neuralgic Amyotrophy*—with flaccid paralysis and sensory loss of root distribution, absence of spinal fluid changes.

(*e*) *Primary Suppurative Meningitis*—Headache, fever, stiffness of back or neck, positive *Kernig* or *Brudzinski signs* and a cloudy spinal fluid.

(*f*) *Sudden compression from Fracture Dislocation of Vertebra*—with history of Injury, positive X-ray finding.

PROGNOSIS :

Cohen believes that no instance of epidural abscess has lived unless operated upon. The outcome of operation could be considered from two aspects : one, as to life ; the other, as to return of function. If sepsis continues actively, the prognosis is that of the sepsis. Another possibility is the spread of infection.

The third factor leading to a fatal issue is that of the respiratory and urinary tract infections. Meningitis as a complication is relatively rare. Functional return will depend on the extend of the damage to the Spinal Cord before the treatment is started.

TREATMENT :

There is only one treatment for Acute Epidural Spinal Abscess, *viz.*, immediate surgical intervention. LAMINECTOMY, to provide adequate drainage of the infected focus should be performed, and the wound left wide open. Thin rubber catheters may be inserted deep enough to drain the abscess cavity, as well as for the purpose of instillation of antibiotics. If drainage is not done soon after the development of the paralysis, the pressure is apt to destroy the spinal cord leaving a permanent paralysis, in spite of subsequent successful drainage. Ramamurti reports about a case of acute spinal extradural abscess in a young woman of 25, who developed rapid paralysis of the lower extremities over a period of ten hours. She was admitted six days after the onset of paraplegia and immediate laminectomy revealed purulent extradural granulation tissue, which was removed. The cord began to pulsate after the removal and the patient made a slow progress. Had the case been operated within 24 to 48 hours of onset of paraplegia, he feels that recovery could have been more gratifying. The most important factor about the Spinal Cord Epidural Abscess is its urgency and potential gravity. Once signs of impairment of Spinal Cord functions begin to appear, the picture is one of great urgency and every hour of delay diminishes the chances of recovery.

ACKNOWLEDGMENT :

My thanks are due to Lt.-Col C. K. Prasada Rao, M.D., Dean, Government General Hospital, Madras, for kind permission to publish these Case Notes, to B. Ramamurthy, M.S., F.R.C.S., Neuro-Surgeon, Government General Hospital, for the valuable guidance given in writing this article, and to the Director, Barnard Institute of Radiology, for the pictures.

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FOUR TYPES OF WOMEN WHOM MEN SHOULD AVOID—

There are only four types of women that one should avoid, according to Judge Scobell Armstrong of a Divorce Court in U.S.A. The seventy-six year old judge listed the types as :

(1) " The woman with catty eyes : Look at her eyes and see if they are warm, bright and kind or catty. If catty, beware of her.

(2) The saintly woman or the woman who spends her life in church ; saints are wonderful, said then the judge, but they may be rather difficult for sinners to live with. The wife who is always wanting to reform the husband can be very trying indeed.

(3) The amusement fan : The wife who always wants to go out for amusement can be very very trying too ; and

(4) The stupid woman : Marriage with a fool however sweet or lovely, is a drab affair. She will have stupid children."

—THE MANGALOREAN, (10—3—1953).

Pseudo–Hermaphroditism

By

A. R. TONSE, M.B., B.S.

RUKMANI was feeling very shy and delicate as she entered the Gynaec Outpatient on 15—2—1954. Her figure was quite interesting—her eye-lashes were painted artistically in black and the red dot (*Thilakam*) on her forehead stood very conspicuously. She had a fairly well-built body with broad shoulders and muscular arms. Her lips were narrow and the bossoms not prominent. She was aged twenty years and her complaint was that she has not yet attained maturity. She was admitted with a provisional diagnosis of inter-sexuality. Her "sister" Radha aged 12 years was later admitted for the sake of clinical interest, as she also had some peculiar clinical findings in her sexual organs. The details of the case are given below :—

Name of Patient : Rukmani.

Age :—20 years.

Sex :— ?

Name of Medical Officer :—Dr. P. Madhavan, M.D.

Ward :—Cottage Ward.

Date of Admission :—15—2—1954.

Prov. Diagnosis : — Pseudo-hermaphroditism.

Complaint :—Of not yet having attained maturity.

Family History :—Comes from a family of five children. Father is Bangaru Naidu, (45 years) ; Mother died of Typhoid fever 6½ years back.

1. First child. Subramaniam, male, 23 years. Average statured adult, well-formed external genitals. Not yet married.

2. Rukmani.

3. Rådha (12 years). Exactly similar findings are found in external genitals.

4. Mukundan. 10 years, male. Well-formed external genitals.

5. Anasuya. 8 years. Female.

EXAMINATION :

General : She had a masculine type of build, hoarse voice, atrophic breasts and sparse axillary hairs. She was not anaemic but angular stomatitis was present.

Per Abdomen : There was nothing abnormal. Nodular masses of about ¾ inch diameter felt on either side just above the inguinal ligament. There is a moderate growth of pubic hair. Right scrotal fold (Labium majus ?) contains testes. Penis (clitoris ?) fairly well-developed. External urinary meatus present below the phallic growth. Rudimentary imperforate hymen present.

Rectal Exam. : No nodularity or mass present anteriorly suggestive of uterus or adnexa.

INVESTIGATIONS DONE :

1. Blood Pressure : 118/78.
2. Intravenous pyelogram :—N.A.D.
3. 17-ketosteroids—20 mgm.
   (Normal = Males 15 mgms.
   Females 10.2 mgms. on an average.)
4. Pregnanediol—3.75 mgm. %
   (Normal = 4 to 12 mgm.)

A laparotomy was decided upon to determine the character of internal sex organs, if present, and the patient was operated on 29—4—1954.

OPERATION NOTES :

Under heavy spinal anaesthesia operation was done by Dr. P. Madhavan, assisted by Dr. K. Bhaskar Rao. Abdomen was opened. No evidence of uterus, or of its adnexa was found. The recto-vesical fold was seen in the pelvis just as in the male. Abdomen was closed in layers and the patient was put in the lithotomy position and bilateral orchidectomy and amputation of phallus was done. The post operative period was uneventful.

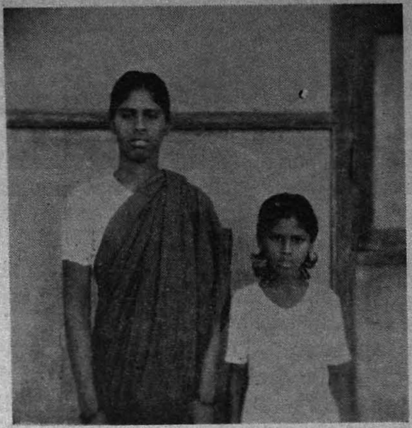

Fig. 1. *RUKKU* (20 years) and *RADHA* (12 years).

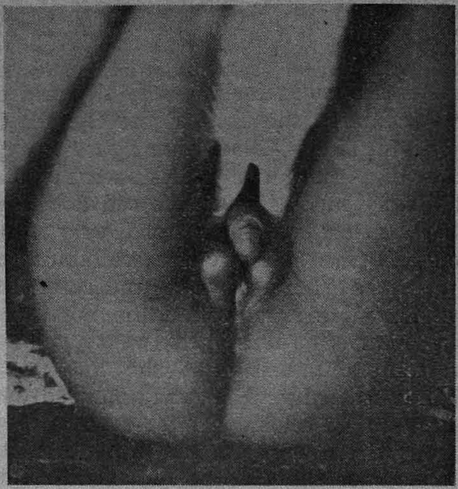

Fig. 2. *Genetalia of Radha.*

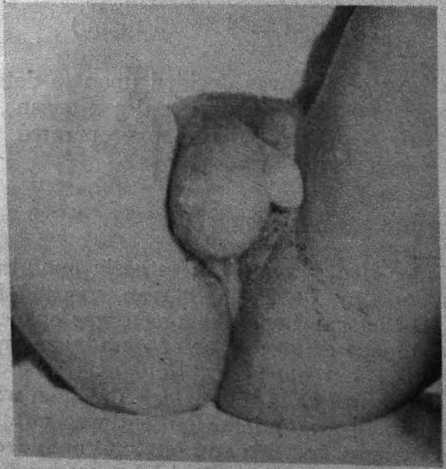

Fig. 3. *Rukku before operation.*

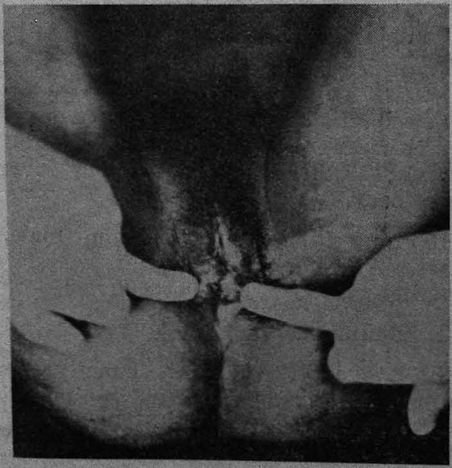

Fig. 4. *Rukku after operation. (Labia separated by fingers.)*

As will be discussed later, the treatment depends on so many factors. In this particular case the procedure was resorted to, for the following reasons :

(*a*) To treat the patient according to the psychological sex.

(*b*) An undescended testes is likely to become malignant.

(*c*) To avoid the possibility of psychic trauma, if the patient is treated according to the gonadal sex.

(*d*) To avoid the possibility of the testes becoming functioning, if not already so, and

(*e*) The patient was unwilling to be treated as a male.

A Macindoe's operation for creating an artificial vagina has been planned in the near future. Her "sister" Radha who is more a male with split scrotum and hypospadias has also been admitted and is waiting for her turn of treatment.

DISCUSSION :

Many individuals are born in whom the external genitals are so imperfectly developed and deformed, that it may be very difficult to assign them any sex and they have been called from ages as "Hermaphrodites". The origin of the term is derived from the fact that, Aphrodite as a result of celestial union with hermes brought forth an extraordinary child, endowed with the attributes of both, father and mother. The parents being at a loss, not able to determine the sex of the child decided to affix both their names and the child has gone down to the history as "Hermaphrodites". The term is usually synonymous with inter-sexuality or bi-sexuality. It is defined as a condition of imperfect sex differentiation and an inter-sex is an individual in whom the male and female features co-exist in various proportions. In other words, he is an individual who is first developed from the genetic sex, but who from a certain point, called "the turning point" changed the direction in development into the other sex. Thus the degree of inter-sexuality depends upon the position of the turning point in time—an early turning point causing a higher degree of inter-sexuality and vice versa.

Hermaphroditism is classified into "True" and "False" varieties. True hermaphrodites are rarely met with. The false, or pseudo-hermaphroditism is again subdivided into a male type and a female type. In pseudo-hermaphrodites, the gonads are of one sex and some or all of the secondary sex characters including the external genital organs are of the opposite sex. They can be either male or female.

ETIOLOGY :

Male pseudo-hermaphroditism : Male type of pseudo-hermaphroditism is the most common form of high grade inter-sexuality, in human beings. It is attributed that male pseudo-hermaphrodites are resulted due to a combination of both genetical and endocrinal factors. They are regarded as genetical males who started life as males, but due to the presence of some feminizing hormones either in excess or in normal quantity or to some particular quality of hormone not tolerated by the male foetus undergo femininization in various degrees. But finally re-masculinization probably occurs, either in foetal life or after birth when the influencing maternal hormones cease. Thus the individuals own hormones take an upper hand and predominate over the femininizing factors and the voice, the breasts, the beard and the sex instincts become predominantly male.

Female Pseudo-hermaphroditism : The etiology has been under dispute. One view is that they are genetical males who have undergone complete sex reversal. The other view is in favour of their being genetical females who have undergone a certain degree of sex reversal by the influence of male sex hormones which might originate in the androgenic zone of the foetal adrenal cortex.

CLINICAL FEATURES :

1. *Male Type :* As has been the case with two of the cases quoted, the individual is usually brought up as a female, because the true sex is made clear usually not until puberty. The masculine characters develop at this time and according to the degree of inter-sexuality all sorts of combinations may be noticed in the internal and the external genital organs. The commoner of these are —a small penis with a hypospadias, a blind narrow and small vagina, a cleft scrotum which may or may not contain testes. The testes may even be in the pelvic position and

there may or may not be any evidence of spermatogenesis. In some cases there may be internal genital organs, like uterus, tubes, broad ligaments etc. The pubic hair may be of the male type of distribution.

2. *Female Type :* Here the clinical features vary according to the time when the influencing male hormones begin to act on the genetical female, if this be in the foetal life. The abnormal male hormones suppress the development of the Mullarian apparatus. Thus the uterus, the tubes and upper four-fifths of the vagina are underdeveloped. There is also inhibition in the development of organs derived from the male rudiments.

If the male hormonal action starts after puberty, such signs of virilism as growth of beard, primary amenorrhoea and undeveloped breasts may be seen. There may be enlargement of the adrenals with hypertrophy of the androgenic zone of the cortex which also causes hirsutism and other male sex characters, and inhibits the development of internal female sex organs.

DIAGNOSIS & INVESTIGATIONS :

The diagnosis is mainly done by the clinical features. The external genitals will speak of themselves. A rectal examination and a bimanual examination will reveal the presence of uterus, broad-ligaments etc. An ascending or preferably a descending pyelogram will detect any abnormality if present in the urinary system which may aid in the treatment. An estimation of 17-ketosteroids and pregnanediol may help in determining the type of pseudo-hermaphroditism. An exploratory laparotomy may be needed to find out the presence of female internal sex organs and to exclude any adrenocortical tumour or virilising tumours of ovaries.

DIFFERENTIAL DIAGNOSIS :

1. *Adreno-genital Syndrome :* It is due to increased hormone secretion in the androgenic zone of the adrenal cortex causing signs of virilism. This simulates various degrees of pseudo-hermaphroditism, in the clinical picture. 17-ketosteroids are increased in urine. There may or may not be hypertension, glycosuria and obesity. An exploratory laparotomy is helpful to diagnose adrenal hyperplasia or cortical tumour. Injection of air into the perirenal capsule and a skiagram, also helps in finding out the presence of a tumour.

2. *Arrhenoblastoma of Ovary :* Symptoms are similar, but there is no hypertension, glycosuria or obesity. Bimanual examination or a laparotomy may disclose the presence of a tumour.

3. *Cushing's Disease :* This is due to a basophil adenoma of anterior pituitary with the same symptoms as adrenogenital syndrome, but there is hypertension, glycosuria obesity and osteoporosis. There may also be signs of intra-cranial tumour.

4. *Other masculinizing tumours of Ovary:* Symptoms are same as those of adrenogenital syndrome. The tumours are evident on pelvic examination.

TREATMENT :

Treatment is first directed towards finding out the cause, which is treated accordingly. Bringing up of the child plays a great part in the treatment of pseudo-hermaphrodites. The child's psychologic sex should be developed according to the genetic sex or in keeping with the predominant gonadal sex. It should be remembered that removal of the gonads, because they are opposed to the psychologic sex, will not change the sex emotions, but it does harm by taking away the hormonal influences producing castration phenomena. Formerly the procedure was to determine the gonadal sex, and if testes were present an attempt was made to have the individual, have " his " place in society as a male or vice versa. But this invariably happens to be contrary to the external genital organs and the sex inclination of the person naturally leads to much unhappiness and trouble.

In case of a doubtful sex, it is better to bring up the child as a male, not only because most of the pseudo-hermaphrodites are males, but also a male, (*i.e.* a male pseudo-hermaphrodite brought up as a female) can do a lot of harm, if brought up among girls, before his true sex is discovered. But it is always better to delay the decision as to the true sex until puberty when the secondary sex characters declare themselves.

In recent years the attitude is to treat according to the patient's desires, because it is very difficult to determine the gonadal sex even after a laparotomy—one part of the

gonad may be ovary and another a testes, and there is a view that gonads of inter-sex do not necessarily produce a preponderence of hormones characteristic of genetic sex. So without the need of an exploratory laparotomy the treatment can be proceeded. Thus according to the decision arrived at, various plastic operations can be done. A pseudo-vagina may be removed, the undescended testes can be brought down to the scrotum, or a penile urethra can be created in hypospadias to help a male pseudo-hermaphrodite. In the female variety, hypertrophied clitoris can be removed and an artificial vagina can be created.

CONCLUSION:

A rare and interesting case of pseudo-hermaphroditism is discussed. It is quite rare indeed to find such exactly similar findings in the same family, particularly in two successive off-springs of the same parents.

I am very thankful to Dr. P. Madhavan, M.D., Superintendent of R. S. R. M. Hospital for his kind permission to present this case. My grateful thanks are also due to Dr. K. Bhaskar Rao, M.D., Assistant Superintendent of R. S. R. M. Hospital for his constant guidance and help in bringing up this article.

"Words are the physicians of a mind diseased.'—AESCHYLUS.

PHARMACOLOGY AND PHARMACO-THERAPEUTICS — 1954

BY

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Science sheds its last year's findings as a snake its skin or a crab its shell. The subject of Pharmacology in the group of Medical Sciences has perhaps been the most progressive in this century. Chemotherapy, in particular Antibiotics, has completely changed the face of medicine with reference to treatment of diseases. But the action and use of drugs seem to demand frequent re-orientation due to changing conditions that the very new drugs have initiated.

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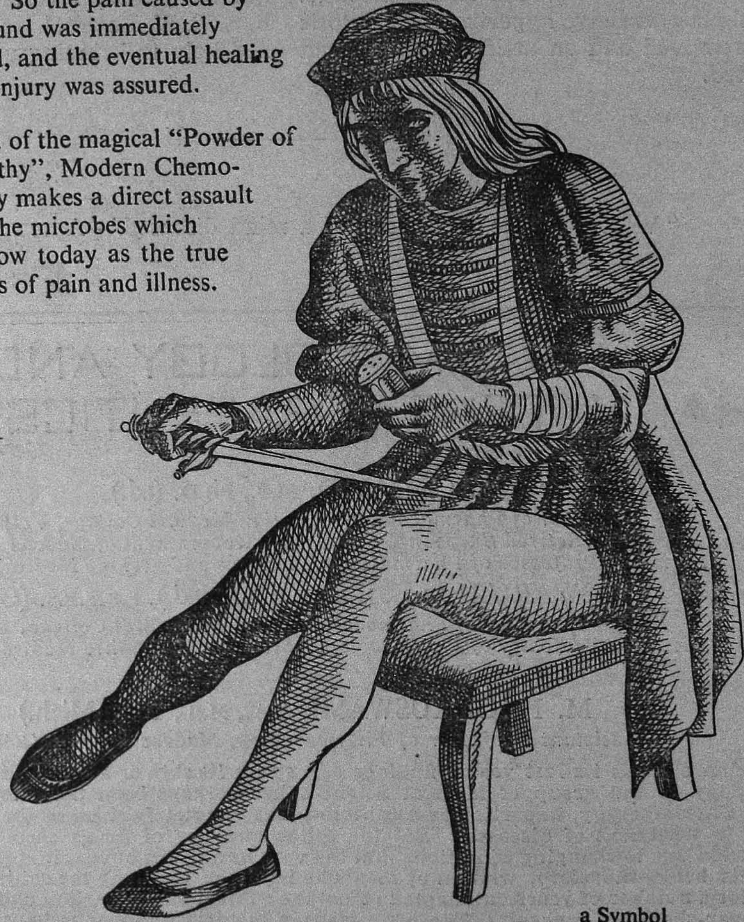

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Chrysomyia Myiasis

By

V. C. ANGULI, B.SC., M.D.

INFESTATION of foul smelling wounds, especially associated with chronic osteomyelitis, with maggots used to be a common feature in the pre-sulphonamide days. This is due to the deposition of eggs or larvae on open septic wounds by a variety of flies, sometimes including the common fly.

Myiasis is a similar condition arising from the invasion of any living tissue by the larvae of Diptera. Chrysomyia is the semi-obligate type of Diptera which requires an animal host but not necessarily man to deposit their ova. Chrysomyia is the genus that most often gives trouble to man and is present in tropics, specially in our country. The female fly usually deposits her ova in wounds of cattle or other domestic animals, but is occasionally attracted to human beings also—particularly to those emitting odours on account of sinusitis or ozaena. The most common site for the ova deposition is the nose. The larvae have the power to penetrate extensively and produce destruction of tissue about the nose, pharynx, palate etc. They are also known to produce inflammatory nodules.

The following case report relates an instance in which the larvae of chrysomyia had produced tumour like growth :

A middle aged woman belonging to the working class reported with a painful tumour of the scalp in the right fronto-parietal region. It was a nodular ulcerated growth measuring approximately 1-1½″ in diameter and there was considerable induration around it. Clinically, malignancy could not be excluded, inspite of the short history. An excision biopsy was done and it was the histological picture that gave the clue to the diagnosis.

Structures resembling larvae of some helminth were found in the section of the skin. (See Figure.) They had an elaborate internal structure and short chitinous spines on the outer cells were present. There was considerable cellular reaction with neutrophilic and eosinophilic leucocytes, specially around the skin appendages. No neoplasia was evidenced.

Dr. M. Anantaraman, the Research Officer, Helminthology section, Veterinary College, Madras, agreed with our findings and he was of opinion that the organism involved in the section was an arthropod parasite and was suggestive of Myiasis producing larvae of chrysomyia bezziana or C. albicans.

This speculative histological diagnosis of the condition was confirmed by the finding of the specific maggots in the wound post-operatively.

Grateful acknowledgements are due to Professor, D. Govinda Reddy, M.D., Principal and Professor of Pathology, Andhra Medical College, Visakhapatanam and to Dr. M. Anantharaman for the suggestion given.

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A case of Eventration of the Diaphragm

By

K. ALAGAPPAN, M.B., B.S.,

Senior House Physician, Stanley Hospital, Madras.

A PATIENT by name Mr. K. Govindarajan, aged 12, was admitted on 24—5—1954 in the Cardew Ward (Stanley Hospital) for pain in the chest and difficulty in breathing of one month duration. He noticed slight fever and weakness at the time of admission. He was running temperature and was given Penicillin for three days. On the next day the temperature touched normal and continued to be so. (Diagnosis was pneumonia left base.)

Previous History: One month before while he was watering the garden he developed suddenly a catching pain in the chest and was treated in the hospital. No history of dysentery before.

Family History: Nil particular.

History of present illness: The patient is having pain in the chest, difficulty in breathing, weakness and loss of weight. Sleep normal. Bowels regular. Micturition normal.

General Examination: The patient is an young boy, poorly nourished and stunted in growth. The patient is anaemic, nails brittle. Tongue clear. There is no evidence of any congenital defect.

PHYSICAL EXAMINATION:

1. *Cardiovascular system:* The Apex Beat is visible in the fifth left inter-costal space. There are no pulsations in the precordial area. Apex Beat regular, about 80 per minute. No thrill felt.

Heart Borders—

Right Border: ½″ Lat. to the Rt. Lat. sternal line.

Left Border: In the left fifth space ½″ Lat. to the sternal margin.

Upper Border: Second left space.

Auscultation—

Both sounds are heard well in all the four areas. No murmurs heard. Heart sounds are better heard on the right side of the chest than on the left side, suggesting a shift of the heart to the right side.

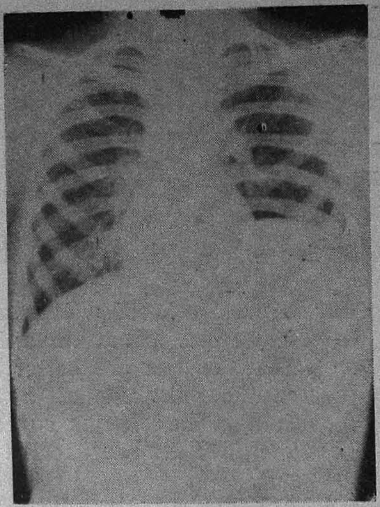
Pulse—80 per minute, regular, volume and tension good. B.P. 112/76 m.m. of Hg.

2. *Respiratory system:* Both sides of chest move, but there is slight restriction of movement on the left side. No tracheal deviation. No rhonchial fremitus is felt. There is dullness on percussion in the posterior aspect of the chest below the level of the scapular spine on the left side. But this dullness is not present in the axillary region and in the anterior aspect of the chest. Traube's Space is not obliterated. VF & VR diminished on the left side. Breath sounds are heard in the Lt. Apex (Vesicular) but becomes faint and then is absent in the lower part of the chest on the left side posteriorly. On the right side Vesicular breathing throughout. No adventitious sounds are heard.

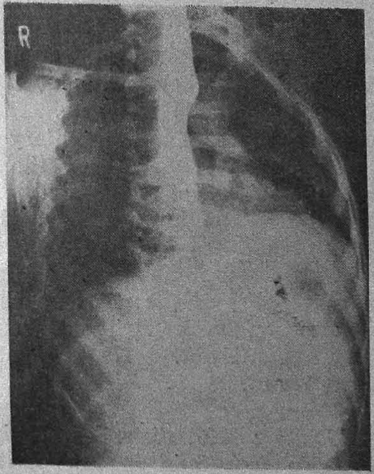
3. *Abdomen:* Not distended, Umbilicus normal. No free fluid in the peritoneal cavity. Liver about 2 finger breadth palpable. Soft, not tender. Spleen not palpable. No tumour mass felt.

4. *C.N.S.:* N. A. D.

5. *X-ray:* Lt. dome of diaphragm is raised. On screening left dome is raised. Movements absent. Diaphragm raised a little at the end of inspirations (Paradoxical Movement). Gas visualised below the left dome. Chest clear. Heart is shifted little to the right:—



Barium Screening: Oesophagus and stomach shadows normal. No evidence of diaphragmatic hernia.



DIAGNOSIS:

It is diagnosed as a case of Eventration of the diaphragm.

Eventration of the diaphragm.—Under this group the acquired displacement of the diaphragm are excluded. It is a rare condition. Left leaf is affected more. Read and Borden records 18 cases of the right side affection of a total of 183 cases.

It is a congenital abnormality and co-existent developmental deformity is frequent.

Aetiology: Obscure. Phrenic palsy as a cause is not generally accepted for all cases as phrenic nerve palsy can occur on either side. Further certain cases of congenital eventration at autopsy showed no phrenic nerve abnormality. So from the evidence available it appears there are two types.

(1) CONGENITAL: Occurring purely on the left side.

(2) PHRENIC NERVE PARALYSIS: Occurring equally on either side.

Pathology: Very commonly diaphragm is raised up to the fourth space anteriorly. The normal red muscle is transformed into a relaxed translucent membrane consisting of a thin layer of white fibrous tissue. Atrophic changes similar to phrenic nerve paralysis are also found.

Symptoms: There may be no symptoms at all. It may be referable to

(1) Gastro-intestinal system.
(2) Respiratory system.
(3) Cardiovascular system.

Duchenne's sign.—Flattening of the epigastrium or lack of usual bulge due to absence of normal downward pressure.

Hoover's sign.—Heightened inspiratory ascent of the costal margin. Epigastric region seems to shift diagonally to the opposite side due to the pull exerted by the forcible inspiratory ascent of the costal margin.

RADIOLOGICAL:

1. Diaphragmatic outline: High (4th space) regular arc across the hemithorax maintained by the ballooned gastric fundus. It differs from diaphragmatic hernia by the absence of hump in the diaphragmatic outline. But a complete hernia in the absence of left dome is not possible to be distinguished from eventration but such a hernial defect is incompatible with life.

2. Contents of the dome: Distended gastric fundus. Splenic flexure and the spleen some times at a lower level.

3. Lung tissue visible through the dome: This will be seen if the gas distension is con-

siderable and lung posteriorly is normally expanded.

4. Movements : The movements may be normal, absent or paradoxical.

Paradoxical movement may be ordinarily seen. It is seen in an exaggerated manner by asking the patient to sniff sharply. This is known as 'KIENBOCK'S SIGN'. Occasionally this is positive in large hernia. The paradoxical movement is explained as follows : The thinned out diaphragm is a fibrous structure covered above by the pleura and below by the peritoneum and is unable to contract. During inspiration the right dome normal in character descends down, and the abdominal pressure is increased and so the upward displacement of the left diaphragm.

5. Gastric contents : Fluid level is commonly seen in erect posture.

6. Cardiac displacement : Slight displacement to the normal side.

7. Gastric deformity, found constantly and is a nature of biloculation. This is explained by Morrison as an upward displacement of the greater curvature into the dome and a rotation of stomach on its fixed points : Cardia and Pylorus. This tortion may amount to almost a volvulus and produces the bilocular appearance separated by the incisura projecting upwards from lesser curvature. This appearance is best made out in the left lateral erect view.

Differential Diagnosis :

I. Group of conditions which have to be differentiated from the clinical stand point.

(1) Pneumonia right base :—Absence of bronchial breathing and diminished VF & VR will exclude lobar pneumonia. Secondly there is no mediastinal shift to right in Lobar pneumonia.

(2) Pleural effusion : No tracheal deviation, absence of stormy dullness and resonance in the Traube's space will exclude an effusion. In effusion diaphragm is pushed down and spleen may at times be palpable.

(3) Collapse Lung : (Posterior Segment of left lung). The shift of the mediastium is towards the affected side. No evidence of collapsed lung in the lateral view.

II. Group of conditions which have to be differentiated on seeing the radiological findings :—

(1) Elevation of the diaphragm after food where there is marked distension of stomach.

(2) Diaphragmatic Hernia.

(3) Acquired causes of elevated diaphragm.

I must thank my Professor Dr. N. V. Iyer for going through this article and giving me permission to publish the same in the journal.

ANSWERS TO "What is your Diagnosis":—

(A) OSTEOGENESIS IMPERFECTA or FRAGILLITAS OSSIUM.
(B) OSTEOGENIC SARCOMA OF THE ILIUM.
(C) BRAWNY ARM following radical mastectomy, done for carcinoma of right breast.
(D) MULTIPLE NEUROFIBROMATOSIS or VON RECKLINGHAUSEN'S DISEASE.
(E) CONGENITAL BILATERAL TALIPES EQUINOVARUS.
(F) CAPILLARY HAEMANGIOMA or TELANGIECTASIS. (NAEVUS.)
(G) CANCRUM ORIS.
(H) FILARIAL ELEPHANTIASIS.

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Rendezvous in Bangkok

By

C. SEKAER—IV Year.

IT was Bangkok in the year 1945. The World War was still raging with all its fury. Few people are aware that this capital of Siam is a most dreadful place to be stranded in. Anything could happen to you in Bangkok. As examples :—You may be shot at by a rabbit-faced gunman who takes a dislike to the cut of your pants or you may die a most horrible death bitten by a mad dog or even stabbed in the back by one of those terrible dagger weilding damsels abounding the night-clubs, after having been scrounged to the last penny. Yes, anything could happen to you here. Bangkok is famous for its beautiful pagodas and exotic women. It is also famous for its mosquitoes which are of the size of wasps. The city is filled with brightly-lit night-clubs offering the latest " oomphy-oomphy " jaaz and strip-tease. They are filled with perspiring sailors from all over South-East Asia—gesticulating and drunken, picking up a fight at the least excuse. Wherever you go you will find the open-air eating stalls which are characteristic of Bangkok. In these stalls you sit beneath the stars, on your haunches, on tall bamboo stools around a table where other gourments like you would also be squatting. In one hand you have a stick onto which are stuck raw pieces of flesh. With the other hand, you cling on precariously onto your unsteady, creaking perch. To the left of you there is an open fire into which you plunge your stick of flesh and roast it to your taste. To the right of you there is a big common bowl of hot scalding gravy into which you next dip your roasted flesh and without much ado you start gnawing away. For people with money to push, you could have also a blonde or a brunette on your lap whilst polishing this stone-age delicacy. This appears to be the chief pastime of the Siamese, young and old, male and female, night and day.

Bangkok is also notorious for its henpecked husbands. If you want to see " henpeckism " practised on a national scale you must go to Siam to see and wonder. At first, like a raw fool, I thought that it was the extreme beauty of the female of the species that made the men so dumb and docile. These Siamese must be great worshippers of Beauty, I thought. Later, someone told me of the double-edged daggers that the women carry beneath their sarongs ; and from then on I used to feel a little quiver in my boots whenever I saw that suspicious bulge beneath the sarongs of these devilish women. My sympathies are entirely with the unfortunate Siamese male. The only remedy for him is to arm himself with a tommy-gun to counterbalance his wife's double-edged dagger hidden dangerously beneath the folds of her sarong. In spite of this armament, however, the greatest danger to life in Bangkok is the mad dog. Mad dogs are to be found everywhere in this wretched city. Whenever and wherever you see a dog, mad or otherwise, running in your direction, you take no chances : jump into the nearest house and bolt the door. Explanations to the householder are made later and usually in mad dog cases they are accepted with a courtesy seldom shown on other occasions. The mad dog is a national terror. I have seen a big busy street empty itself in a wink at the sight of a running dog. Nobody knew whether it was mad or not ! Even the Yankee B. 29 flying fortresses carpet-bombing the whole show, couldn't do the trick so efficiently !

All this is by the way,—an aside ; just an introduction to the background where my story begins. In this queer city of Bangkok there was a man called Slazensko. Obviously he was not a native of Siam. His name would be more in harmony in places like Lithuania or Latvia or even in God's own fatherland —I mean Yankeeland. Moreover a Siamese looks across between a Chinaman from Canton and a Madrassi from Kozhikode. This Slazensko was definitely a white man. What he was doing in Bangkok, how he got there during the war, I don't know and per-

haps will never know. One day I was sitting outside one of those open-air eating stalls, twiddling my thumbs and wondering what on earth I could do to make both ends meet when I realised that someone was violently agitating my boots. Surprised, I looked down and saw him cleaning my boots with gusto. "I am starving. I haven't earned a sou the whole day", he said by way of explanation wearing a broad comradely, confiding grin.

"Cleaning my shoes won't fill your belly or make you any richer" said I. But he persisted and continued with his job. At last he finished and stood up expectantly. I got up. "Thanks very much" said I and thrusting my hands deep into my empty trouser pockets strolled away trying to whistle a tune. I heard someone following me. "My name is Slazensko" he said. "I am a poor man."

"My name is Shekar" said I. "I am also a poor man".

"But Monsieur is not from Bangkok. Monsieur is a foreigner."

"I am a poor foreigner stranded in your dreadful city" said I. "Now, please go away".

"But you must be having something, sir."

"You are entirely mistaken, Slazensko. I haven't a sou with me. Yes. We are comrades in distress, you and I" and for proof I turned my empty trouser pockets inside out. Slazensko was stunned ;—but he continued pacing by my side.

"But I have cleaned your shoes, Monsieur."

"That doesn't worry me. I didn't ask you to clean my shoes."

"But the fact remains, Monsieur. I have cleaned your boots. You now owe me a debt."

"Well, you may dirty them again, throw mud on them, spit on them if you like. Dip them in dung if it pleases you" said I getting annoyed.

"That will not wipe out the debt you owe me."

"Now look here, Mr. Slazensko. I have told you that I am not in a position to give you anything. Now please go away" said I.

"You don't understand, sir. It is now no longer a question of money" said he.

"That's really interesting" said I. "May I know what the question has now become."

Slazensko was gripped with emotion. Tears streamed from his eyes. He was breathing fast. Sweat poured from his forehead. At last he said between sobs "Monsieur, it has become a question of honour,—of self-respect. I have to keep up the name of the House of Slazensko."

"Be reasonable, Slazensko. You know, that I haven't anything with me. Give me your address. I will send you money—any amount you say" said I desperately.

"The debt must be settled today" he said solemnly. We walked on and on, round and round the city. Music streamed from brightly-lit cafes. Coarse jokes of drunken sailors came floating by. The open-air eating stalls were crowded with people. A few dogs were howling away at the moon. That didn't worry me now. There was a mad human being walking by my side.

Suddenly he caught hold of my arm in a grip of iron.

"I have found a way out of this difficulty" he said.

"Well."

"You will have to clean my boots. Then the debt will be mutually cancelled."

It was my turn to get shocked. I tried to wrench myself free from his grasp, but it was too firm, too desperate a grip. We continued our patrolling of the dusty streets of this weird city, with Slazensko holding on to me as if for dear life. The night-clubs were getting more and more crowded. The moon had already climbed its zenith and was now climbing down. I was feeling desperate, lonely and frightened in this strange foreign town of mad dogs, mad men and dagger-weilding females. Finally in sheer frantic desperation I led him to the riverside. The

hum of the mosquitoes was like the drone of aeroplanes. I took him to an iron railing. " Sit down, Slazensko " I said wearily and in that abandoned, mosquito-infested river-side, by the light of a crescent moon, accompanied by the howling of Bangkoks notorious dogs, I cleaned what was left of his chappals, if such rags may be called chappals.

" Thank you, Monsieur " he said and threw down a sou. It was the first sou I had earned for quite a while but tears of abject humiliation and self-pity crept into my eyes.

It was the year 1953. The war was over. My constellation had landed in Bangkok on its way to Singapore. We had two hours rest there. I went about the city recollecting old times. A feeling of nostalgia came over me as I went to the river-side—a feeling of frustration and defeat. It was only natural; but I got the biggest shock of my life when in one of the new rebuilt areas I saw a huge forty-two storied skyscraper. On it was written in blazing neon lights " The House of Slazensko ". I couldn't believe my eyes, I just stood there paralysed. After a while a distinguished looking, silver-haired old man with a thundering cigar in his mouth came out and got into his huge automobile. I gasped. No, definitely not, there was no mistake. It was the same Slazensko !

" Porter, if you are going to close the windows, I will be suffocated to death ", cried a lady passenger in a compartment of a train.

" If you are leaving them open I will be freezed to death ", yelled another lady passenger.

The porter looked helplessly at the ticket examiner sitting nearby.

" That is easy ", said the ticket examiner, " close the windows suffocate the one and open them and freeze the other."

—M. THAYUMANAVAN—*IV Year.*

* * * * *

In a ship an offer was directing the passengers on board to their respective classes. One young beautiful lady with a child in her arms came to him. He leaned to her and asked, " First or second ".

The lady replied with her face turning as red as rose " No, sir. This is not mine."

—M. THAYUMANAVAN—*IV Year.*

* * * * *

" Couldn't you've gone around me ? " howled the bulky victim at the driver in a car accident.

" Sorry sir," said the driver, " I was in doubt I'd enough gasoline."

—M. THAYUMANAVAN—*IV Year.*

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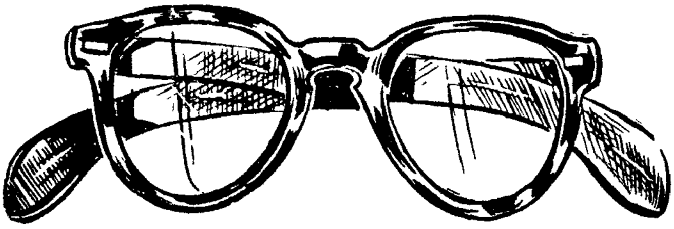

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Spring and Winter

By

E. THEODORE KING—III Year.

I

THE Mona Theatre was filled to capacity house, but the people were still pouring in. They sat restlessly in their seats, and in their impatience set up a series of whistles and catcalls. The vendors shouted their wares and created a terrific din. The rich in their stalls and boxes, looked on silently, the idle rich with curiosity in their eyes. The sophisticated ladies chattered about the latest parties in town, and of the eligible young men. They all sweated as they sat, and the fans above did nothing to cool them. It was one hell of smoke and suffocated air, of bad breath and sultry talk.

In the special box-seats sat a handsome pair of men. Both were tall and goodly built, and resembled each other very much. But one was slightly old. He had grey hair at the temples, and a few wrinkles appeared on his face. He had a heavy paunch and seemed too weighty. The other was young. There was a brilliant sparkle in his eyes, and they seemed amused at the scenes around him. He was inclined to be lean, but the sturdy shoulders and the big chest belied any softness of muscle. Both were dressed in superb sherwanis which gave out influences of rich culture and aristocratic breeding.

Sir Shyam Prasad shifted in his seat constantly. He turned and stared at everything and everybody. Krishna smiled, and remarked, "You are very excited, father".

The other only smiled. "I've created a star and it must twinkle well tonight", he growled.

"You and your theatre! I hate it."

"You may do so with convenience," the greying man replied. "You are sitting here in luxury because . . . oh, skip it. Today it's different, son. Very different."

Krishna smiled. It was a tragic, understanding smile. His eyes assumed a hardness and soon they were limpid again. His father saw the passing glimmer, and did not like it. He swore under his breath.

"What kind of a girl is she, father?"

"She's no girl. A woman, aged twenty-seven. But bad. Very bad. From the slums to the prostitute lair. From there to here."

"Why did you give her the job, knowing the kind of woman she is?"

"What could I do? She needed a job and I gave it to her when she begged me."

"The eternal philanthropist! If such people like you don't live, father, the world will always be in ruin. That's why we believe in God."

"You and your philosophy! I didn't take her on that. She has talent and is a paragon of beauty."

"Ah, father! You love her?"

"You talk like a senseless fellow. In love with her! Why, you rogue, what do you think I am?"

"Don't growl like that, father," the other answered softly. "A man who owns a theatre is not without scruples, and such things are all in the game. No, don't protest. Your life was never exemplary to me, and it wouldn't do you any harm if you could tell me about your waywardness a little."

"But she's young."

"The younger the beauty more violent the passion."

"Krishna!"

The gong sounded and the theatre was silent like the dead. The curtains rustled and went up with a screech of the drawing pulleys. Everyone stared at the scene, and

the soft music made the heart stand-still, afraid, trembling at such exquisiteness.

"You are hurt, father," Krishna whispered. "I shall atone for hurting you. I'll smile on your paragon of beauty."

They gazed at the scene. It was all green and sunny. The trees stood out with new leaves, and the buds had newly opened into beautiful blossoms. The birds twittered and screamed with joy, and the brook flowed by with a gurgling noise. The sky was cloudless blue, and all around was a great feeling of happiness and exhuberant merriment. It was a simple scene, but it was enchanting. It thrilled.

"Is it Spring, father ?"

The soft whine of the flute and the delicate tap of the drum vibrated with ecstatic meaning.

"It is Spring, son."

A jingle of bells was heard off stage. Then the drum. The flutes, the veenas, the violins, sent up their thrilling notes. The drum again. It was beating like the heart. Krishna craned his neck and listened. His eyes became rocks of granite, and he bit his lips angrily. It was like his own heart-beat. His face coloured, then grew pale. His eyes became limpid again. He wet his lips with his tongue.

A girl entered the scene, swaying to the melody of the orchestra behind her. She was twenty-seven, according to Sir Shyam Prasad, but she looked young—too young. She was dressed in satin green, and silky drapes fell loosely over her shoulders. The skirt was rainbow-coloured, and swung about her with grace. The dupatta clung to her and bellowed now and then in a sensual way. She whirled with vibrating rhythm, and all who watched her held their breaths. Some could feel their heads throbbing, others a peculiar nervousness. They sat tensed and gaped, afraid to move, fascinated. Krishna wiped the sweat on his brow and face, and swallowed hard. A lump had risen in his throat and seemed to choke him. And he could feel the satin in his arms. He could feel its taste in his mouth.

She danced the Dance of Spring. Her arms twisted like lithe snakes, her fingers whispering tell-tale emotions, and her eyes told a strange passion that only a strong lover could understand. The feet jingled and sounded the mad throb of her heart, and her hips moved in a rhythmic glory that cast an enamoured spell. She told of Spring in its youth, of love, of passion. She danced the witchery of the season, the little birds quarrelling with their twitters and proclaiming their lusts, of life that makes the old seem young, and the young to be gay and wild. Krishna's eyes narrowed, and his face was all taut. His breast heaved like a boisterous sea on a wild night, and he clenched and unclenched his hands.

The dance finished. Krishna woke up as if from a wonderful trance. The charm of the woman had kept the audience spellbound, and now they applauded with heart and soul. The people in the lower classes whistled and howled. Everyone shouted for an encore. The curtains fell, then rose again, and she bowed gracefully to acknowledge their token of praise. When the curtains fell again, she swept into her dressing-room.

The second part of the show was on—dances by starlets, young boys and girls who sought the stage for fame and fortune, many who had run away from homes to crash into this world of illusion and unreality, this life of make-believe called entertainment.

"She's done it," Sir Shyam Prasad shouted jubilantly.

"Can I meet her, father ?"

"Why ?"

"I want to meet her, father."

"Certainly. She's great."

Backstage, in her dressing-room, he introduced them. Her eyes were lovely black and contained stars. They twinkled.

Radha was her name. Krishna felt the name in his blood, and it sent a sharp, thrilling pain through him. His father was telling her about her grand future. She had rocked the audience. She had taken them by

storm. She had set ablaze the hearts of thousands. She had torn their souls to pieces. She was . . . .

" Father, I want to talk to her—alone. Do you mind ? "

" No ", the old man said, and felt abashed. He withdrew. Outside he cursed his son who called him father at places where he ought not to. It made him old—very old. He cursed vehemently for bringing the other on the opening night much against Krishna's will. But they were more friends than father and son ; and he had wanted to show his best friend his greatest triumph.

He strode down to his office and picked up the telephone. He dialled to his villa and waited. Then, he said, " Hallo ". He began to speak rapidly. " A nice supper for three, Bola. We'll be along."

He put the receiver down and cursed some more.

II

" Come here, Radha," Krishna said. He looked at her with mixed emotions, his voice unsteady and hoarse, his eyes limpid.

She stood at one end, staring at him, afraid. She who lived her life before she joined the theatre, had known many a man, who had been buffeted from pillar to post, suddenly looked afraid. The man before her puzzled her. She flushed and quivered, her face grew white and ashen, and her eyes widened with a clutching fear.

" You danced well," he said, but the voice seemed to come from far away, then it boomed in her ears like a canon. " You are great. The Radha of old was a myth, but you are a legend. Where did you learn to dance like that ? My heart nearly burst. I couldn't bear such exquisiteness. Come here, Radha."

She bowed, but she did not move. She trembled like a leaf on a windy day. She felt faint. She was afraid that she would fall, and in her fear tottered upto him.

Her head was in a whirl. She could feel his hands on her arms, grip them till they hurt, but it was a soothing pain. She felt his hot body, and suddenly a warm breath on her cheek. The slight kiss brushed her, and she shivered. Then she found herself kissing him, lips pressed hard against lips. He kissed her like one possessed, and she clutched him tighter and closer, afraid that it might be a dream. The lips withdrew and she found it hard to breathe ; she was gasping. He whispered, " Radha ", but she would not let him speak. She drew his head down and bit him and held him long.

III

They set out that night to celebrate her success. Just three of them, a casual, domestic affair.

Krishna sat at the wheel, and the Packard glided swiftly along the roads which were almost deserted. Radha sat between them. Nobody spoke. Sir Shyam Prasad was lost in some deep contemplation. He didn't seem pleased at this strange turn of affairs. He couldn't understand this new feeling between his son and a whore.

But Krishna was happy. He was exulting all inside, and it was with great difficulty that he controlled himself. He wanted to tell the world about his new love. He wanted to jump and prance like a school boy. With one hand on the wheel and steering the car, he held Radha's hand in the other and caressed it. Radha sighed with joy, and trembled at the new found happiness.

The car entered a large gate opened by a Gurkha guard who came to attention and saluted the black mass. It passed on and halted under the portico of a magnificent mansion. Bola, an aged servant, was waiting for them, and opened the door of the car. Sir Shyam Prasad got out, moody and serious.

" All ready, Bola ? "

" Yes, Sir."

He hurried upstairs, and slowly Krishna and Radha got out of the car. Krishna grinned.

" Bola, this is Radha. Our new star. She was a sensation tonight. Radha, this is Bola, my foster-father."

Bola showed his teeth which was a mark of appreciation. Radha smiled at the old man and liked him.

"You had better come in, little master. The table is laid."

"You wait for us inside. I want to show her our garden."

Bola withdrew, and Krishna led Radha to the spreading garden that was filled with abundant flowers and grass. From there, they looked on to the building.

"It's a beautiful home, Krishna."

"Not beautiful enough to lodge you. I'll build a house that must rival you. Will you live in it?"

"All for me, darling?"

"Only for you. I will call it the Spring."

She took his face in her hands and kissed him impulsively. From behind the windows of the mansion, a shadow saw them, and did not like it.

IV

After the little celebration, Sir Shyam Prasad retired to bed. Krishna promised to take her home, a little house in the outskirts of the city, which generally the father and son used as a 'retreat'.

He had presented it to Radha at the dining table. "You'll stay there, Radha. It's my wish." She had nodded meekly.

When they went to the cottage, she loved it. It was enchanting. Krishna showed her around.

"This is my favourite sofa. Take care of it."

They sat down on it, and he drew her to him.

"I'll worship it," she said.

"I may come back to see it now and then."

"You are welcome."

"Are you happy, Radha?"

"Very happy. I love you, Krishna."

He kissed her relentlessly.

After he had gone, she retired to bed. She tried to sleep, but sleep would not come to her.

This was a strange life, she thought. She remembered the times when she lived in squalor and filth. Get money and feed the stomach; get money and pay the rent; get money and give it to the buxom procuress; get money for a few other things that nobody need know. It was always money, and she had to strike hard bargains with the men. A woman of no consequence yesterday, and today the toast of the town! It was all a dream. She sighed deeply.

Her fingers trembled on her lips. Krishna! Ah, how loving and different from other men! Good and clean and nice. Bad though she had been, bad though she was, she loved him. She did not know how wonderful a thing it was to love. It made her feel holy and sacred. She would sacrifice even her life to keep that love pure.

Slowly she dropped off to sleep. And she dreamt about her new-found happiness, her love for Krishna, her Krishna.

V

The days passed in delightful ecstasy. They went for excursions and picnics, for boatings and moonlight walks, and became the talk of the town. Gossip columns figured their chatters and the society papers printed their pictures amidst their pranks. It was one heaven of life.

"There's one thing I must tell you," said Krishna.

"Tell me."

"There's no past. It's dead. Only the present and the future matter. I love you. All I want is you. Remember that always."

"I'm a bad woman, Krishna."

"Who are you to judge yourself ? You are a wonderful woman."

"I'll die for you, Krishna."

"Too many die for love. I want you to live. Your life is my future."

So everyone heard of her as the daughter of a rich business-man who had died of the cancer of the lung. This was the background she could lean against and not feel inferior before grandames and the society butterflies, the sophisticated and the cultivated rich.

But one man didn't like it.

"What are you upto, Krishna ? You're insane."

"Be reasonable, father. I love her."

"She's no good."

"I'm marrying her soon, as soon I pass out of the College. This is my final year."

"Don't marry her, Krishna. I'll be made a laughing-stock by my colleagues and friends. This is not time for me to play the clown. Let her alone, Krishna."

"You talk as if she has no virtue. Does the loss of chastity reveal her black character ? What brutes we all are ! We debauch our souls to ruin and degradation, and yet when we marry we want a woman who has been untouched by another man."

"You don't understand, son. There are women who will sell their souls for money, and there are men who can buy them. They seek each other's pleasures and there's no harm there. But virtue ?"

"What kind of a virtue, father ? The virtue of chastity ? What kind of chastity anyway ? We marry a woman and break all laws of modesty, and outrage her, and yet that woman is chaste, because she happens to sleep with one man only. Chastity should be of the heart, father, not of the flesh. Radha is good, father—very good within."

"But Radha has lived a hundred lives before. Radha is a whore."

"It's not Radha's fault if she was a waif. Our lust made her what she was. Now she's different. She'll stay different. And I'll marry her."

"But I won't let you marry her. It's a promise."

Krishna rose up from the sofa and straightened his clothes. He pursed his lips and his eyes narrowed dangerously.

"If you do anything to separate us, father, I shall kill you. It's a promise."

Sir Shyam Prasad smiled. The smile broadened into a gay laugh, and soon he was convulsing with laughter.

Krishna cocked his brow, grinned, then went out.

VI

Radha continued to charm the people. Every show was full of appreciable audience who howled with delight at her performances. The rich and the well-to-do paid compliments backstage with flowers and choice words and sometimes with costly gifts.

Sir Shyam Prasad had really made a good investment. He built the wings in the theatre, and set the stage to a more beautiful glow.

Summer was approaching. Sir Shyam Prasad planned to visit Simla and stage a series of shows there. Most of the important personages came there just when the hot season set in, notably the governors of provinces, and occasionally the Prime Minister of India. Critics usually gathered there and wrote extensive notes to their papers. She would be showered with praise and boosted to the skies. After that, a European tour, with more laurels and praise. And Simla was a lovely paradise where the roses bloomed throughout the year and the birds sang lush songs with deep passion.

They went, Sir Shyam Prasad, Radha, and the Mona Theatre troupe. Krishna stayed behind. He was a medical student and his examinations were drawing near. Soon he

would pass out a doctor. He temporarily forgot Radha and stuck to his Medicine, Midwifery and Surgery.

Bola kept house as usual. Bola, who had brought up Krishna from the time the child was motherless. The father took the credit, but it was this servant of fifty-five years who infused in the growing lad the love for life and the lust for adventure. But as the days glided on, Bola noticed an uneasiness in his young master. She didn't like it.

"It doesn't do good to think about her now, little master. Finish your examinations. Then you can go to Simla. Time enough for everything."

"Yes, Bola."

So Radha danced in Simla and won the admiration, adoration and the unstinted offering of praise from the knowing greats. For Krishna, the examinations somehow seemed to drag but, however, they ended. Then he packed. But to his surprise, his father had returned—alone. Krishna was irritated.

"Where is Radha ?"

"In Simla. She's resting on her laurels. She'll come later."

Krishna caught the lapels of his father's coat. "There's a hitch, father. What is it ?" His voice was like a hiss with deadly venom. For the first time in his entire life, Sir Shyam Prasad grew afraid.

"There's no hitch. She's resting there."

"You are lying, father. Tell me why Radha has not come down with you ?"

The father winced and turned his ashen face aside. He tried to collapse in a chair but Krishna held him firm. The voice grew deadlier, and the father looked into the eyes of his son only to find his heart in his mouth.

"Let me sit down, Krishna."

"What have you done to her, father ?"

The old man began to tremble. He grew pale and in his fear looked ugly and monstrous. Then in a rancous voice, he said, "I . . . . ravished . . . . her."

Krishna stood still, unable to believe his own ears. He let go his father and suddenly burst out into a loud laughter.

"Dear father! Oh, my father! You! You, of all the people! You my father! Sir Shyam Prasad, the show-king! The great spectacular man who bought his titles with preposterous sums! You, my father!" He was still laughing ; but tears had sprung in his eyes, and flowed down his cheeks. Then he rushed out.

"Krishna!" the old man's voice trembled with fear and sorrow.

VII

At first, Krishna became mad. His disillusionment was so deep that he lived in a strange world of dream and apathy. Then when soberness came on him, he felt a terrible restlessness. His feet began to itch and he began to wander. From the cities into the towns and then into the villages. He just kept moving, aimless, sleeping where there was a little shelter, eating when there was a little food. He grew a beard and the beard hid the ugly lines on his face. But it could not hide the tragedy and the sorrow in his eyes. And in his eyes there was a hauntedness, a desperation of a man who had played his all and lost.

Then he stumbled into Dhanora, a small village. He also stumbled on an accident. The village headman, Maruthi Patel, had been riding out that day and he had been thrown violently off his horse. He sustained minor bruises but he had fractured his hand. The nearest hospital was eighteen miles away, and the village *Vaidya* was trying his best to allay the pain and make an impressive surgical dressing.

They say that a drunkard cannot resist a drink, and a doctor cannot resist suffering. Krishna saw him laid against a tree, moaning with pain. Some people had gone to get the litter to carry him back to his house.

Krishna stood before the Patel.

"Is it hurt bad ?"

The Patel looked at this strange vagabond. There was almost a contempt on his face. Then he saw the eyes, and flushed.

"Yes", he answered meekly, and wondered why.

Krishna bent down and studied the hand. He diagnosed swiftly and twisted the hand gently that the broken pieces of the bone met. He asked for splints.

"Splints ?"

"Break a box—a wooden box—and get me some thin pieces."

They obeyed him implicitly. When he had them, he made a neat dressing.

"You had better go to the hospital and get it done well. How far is the hospital ?"

"Nine *Kos*."

"Well, you'll die before you get there. I'll write some things out and you had better send a man there. What place is this ?"

"Dhanora."

He wondered where he was. How far from his place where the tragedy started ? Why go all over that again ? He was somewhere and he didn't care where. He looked at the headman and smiled.

"Don't worry. You'll be all right."

Maruthi made a gesture of thankfulness. Then he said :

"There is a great unhappiness in you. Where are you going ?"

"I don't know."

"There's magic in your hand. Some doctor ?"

"Finished medicine."

"Then stay with us."

"No. I must go on."

"You can forget your sorrow in your work. This place needs a doctor."

"Why didn't you ask the Government for one ?"

"We asked ; but doctors are afraid to come over to villages."

"Naturally enough. They don't get good remuneration."

"Does service to people need remuneration ?"

"You are too idealistic. It's bad. Idealism doesn't fill your stomach. We struggle hard for six years, burn the candle at both the ends, and spend thousands of rupees—and do you like us to end up as starving idealists ? No. Man must serve man but not in the way you mean."

"Would you stay ?"

Krishna thought for a while.

"Yes."

They gave him a hut and he lived there. He met the Civil Surgeon at the District Headquarters who recommended his application to the Director of Medical Services of the State, and got the appointment. And Krishna lived in Dhanora and the years went by. He established a hospital and turned the stinking village into something of a habitation for human beings to live.

He stayed around for five years. And during the horrible interim he braved the dire pestilences that besiege God's own people. But he lived a busy life and that kept his thoughts away from Radha or his father.

And then, one day, a stranger came into the village. He was heavy, tall, sunburnt man, white-haired, with anxious lines of wretchedness marked heavily on his face.

Krishna's eyes became hard when he saw the man.

"You have no right to be here," he told him.

"I wandered like a mad man," the stranger answered. "Every city, every town, every village—asking for you."

"I am dead. Did you not know?"

"Men like you don't die. They suffer but they don't die."

"What do you want now?"

"I've come to take you away from here."

"I'm not coming. This is my hell; this is my house."

"You must come."

Anger seethed on Krishna's face. He lost his head. Before him stood the man he loved most and hated most. He lashed out his fist and felled the stranger. The stranger rose, bleeding.

"Thanks, Krishna. Let's go home now."

Krishna stared. "Father!" His voice was thick with pain. Then he fell at the old man's feet and sobbed.

VIII

The Mona Theatre was crowded and the people were still pouring in. They sat restlessly in their seats and in their impatience set up a series of howls and whistles. The years had not damped their spirits but only let them soar. The rich sitting in their stalls and boxes looked on silently, and fretted with impatience. The sophisticated ladies chattered like magpies.

In the special box-seats sat a pair of men. Both were tall. But one was old. Very old. His eyes had dark rings about them. The other was young. But not too young. Life had scarred his face with disappointments and desperations. The once-smooth countenance was plaster-like and painfully rough. But the beard and the thick moustache made him look a stranger. His eyes roved the auditorium without any amusement.

They sat in their seats with dreadful calm.

"Does she know I've come back?"

"Yes. I told her. Five years is a long time."

"Tell me what happened?"

"She wanted to commit suicide. I dissuaded her. I repented for my folly. I didn't know that love has no barriers. When I did, I was sorry for myself. I gave her everything she wanted. But she only wanted you. I promised her I'd find you for her. I did everything to find you—newspapers, magazines, radio, films, everything that money could buy and use. I sent men prowling into a hell of a lot of places. I went around, too.

"But Radha danced. She was growing old but men loved her age. The audiences came. I asked her to give up dancing, but she would not. She was afraid that you might stumble into the theatre and not find her."

"I love her, father. If she loves me still, I will marry her."

"After all what happened."

"I was young and foolish then. I should have used my head instead of going off on the prowl. Such a mad, giddy, stupid prowl. I made a big mistake when I went away. I will rectify it now."

"What do you mean?"

"What if you are my father? You were just another man. I should have thought of that, then. Anyway, it's not too late now."

"I won't say anything. You know best."

The gong struck and the theatre was silent like the dead. The curtains went up. Everyone stared at the scene, and the harsh music made the heart groan with its dire, tragic ditty.

They gazed at the scene and their hearts sank. It was all dry and barren. The trees looked naked. The sky was grey and no birds sang, but occasionally, a snake hissed. Snow was scattered around and the stream was frozen. It was as if life was dead. It rent the soul.

"Is it winter, Father?"

The wail of the flute and the ugly tap of the drum sounded shrill and ugly in Krishna's ears. He hated the music.

"It is Winter, son."

A jingle of bells was heard off-stage. It didn't rouse any feeling in Krishna except frustration and hate. His face was calm but the skin had drawn stiffly across the bones. The eyes stared but without any sparkle.

"Too bad, father," he said and leaned forward. A woman entered the scene. She seemed old but gracious. She was dressed in black. Krishna bit his lip.

She danced the Dance of Winter. The arms twisted languidly, the body moved with great effort. Tears ran down her cheeks and occasionally glistened in the glare of the lights. She danced of frustrated love, of the young when they become old, and the old who hurry to the grave. She danced the despair, the coldness and the fear of the season. The dark and dreadful nights, the restless shivering days. Anxious waiting. Hopelessness. The blood-red sun who cursed and wouldn't give warmth, the clouded moon which was pale and wouldn't shed light. She danced the tragedy of the world, of dislike and contempt, of dead passions and hungers.

The music glided on till it reached a harsh crescendo, and then she became mad with ecstatic joy, and whirled like one possessed, her body glowing with the warmth of passion, of forgiveness, of reconciliation, of exhuberant love. She whirled like a wheel, then sank on the floor. The curtains fell. The audience applauded. There were thunderous cheers. It was the best dance they had ever seen. They howled and whistled and shouted hoarsely. "Encore! Encore! Encore!"

But the curtains did not go up. She did not come to make the bow. But the manager came forward and with a choking voice said, "Radha is no more. She has danced her last dance. The theatre will be closed in sad memory of her."

The deathly calmness in the theatre was horrific. Slowly the audience filed out, their hearts burdened with grief. Krishna closed his eyes when he came backstage, and kissed her lips, cold and lifeless. He straightened her body and found his father crying.

In the dressing room, there was a letter for Krishna. He looked at his father and read it:

"I love you, Krishna. All my life I had been bad and your love made me good. At least, I was good when I loved you. I have killed myself because I could not face you. I had obeyed the base instincts again, and scattered our ideal, our hope, and what ought to have been, our home.

"You are a good man, Krishna. You had tried to reform the world by harbouring a waif. But I am a woman of no consequence. Many like me come and go, many have died worse deaths than I have. I have hated the world and the men in it, but you came along and created a different world for me. I loved you, only to lose you.

"I love you, Krishna. I love you forever.

"I am going to-day. Tomorrow sinks into the Silent tomb."

Krishna saw the tear-stained face of his father. "You and your theatre!" he said, and walked out into the dark night, to brood and to rid himself of the oppressive feeling that rose in his heart and choked him like a hangman's rope.

'The body is a cell-state in which every cell is a citizen. Disease is merely a conflict of the citizens of this state brought about by the actions of external forces.'

—Rudolf Virchow.

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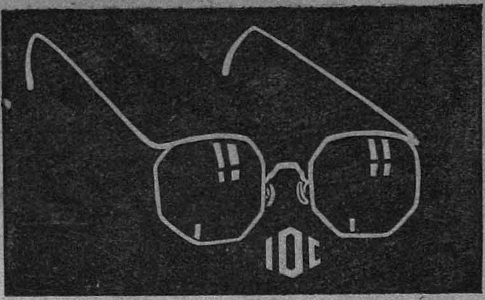

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By
K. SREENIVASAN—IV Year.

IT was a fine Sunday evening. The gentle sea breeze was blowing smoothly. Even the dullest of brains and coldest of hearts cannot fail to appreciate the pleasantness of the evening spent by the sea. There can be no better background for people to chat, amuse and exchange their ideas and yet if one is to prefer the serene solitude being supremely unconscious of what is going on around we can only blame the delightful sea breeze which can drag people into wild imaginations and high philosophic thinking.

Anyway that was how I satisfied myself when I came across a young man who seemed to have immersed in deep thought while looking at some distant object, probably a ship on the verge of disappearance or perhaps the mysterious horizon. He appeared to be of the early twenties with a face indicative of a clouded mind. At first his peculiar attitude suggested to me that he was one of those people who will rather starve on a penny than work for a pound. But I had to realise soon that I was wrong.

While my thoughts went on in this strain I was moving closer to the man with the perturbed mind. A high tide came on suddenly and disturbed my balance. I managed not to fall but only to find my man shouting at me with anger.

"I say, can't you walk without spraying the sand on all those who are sitting here ?"

"I am sorry ; I couldn't help it."

There was some silence following my answer. My interest in the man was nevertheless sincere. I approached him and explained to him that I never meant any insult. He cooled down very soon and regretted very much for his bad temper.

Though I was thus introduced to him in rather unpleasant circumstances, the desire to learn about him and become his friend was burning in me and I gave vent to it by choosing the path of inquiry and knowledge.

"What is your name ?"

"Venugopal."

"Married ?"

"Yes . . no, no I am sorry . . . I am a little absent-minded."

". . . . . . "

"And this fit of dejection is as frequent with me as my bad temper."

"Why do you look so sad when others are happily enjoying themselves in the sea-breeze. And why do you look at so vacantly ?"

"I may appear to look vacantly but I am really looking at something so dear to my life . . . ."

"You mean . . . that small girl . . . over there playing with the retreating tide ?"

"Yes. She means everything to me."

"You said you are unmarried and how is that girl related to you ?"

"Yes, it is really a very sad story . . . I was in my fourth B.A. preparing for the final examination. Raghunath was my classmate known to me from our high school days. Kousalya a charming young girl was also doing her final B.A. She was familiarly known as Kousi. Kousi and myself invariably topped the list in the examinations. At first I used to talk to her only on matters concerned with the subject. But soon I found an irrepressible desire developing in

me, a desire to marry her for I was much impressed with her curricular and extra-curricular achievements not to mention her exquisite beauty, her elegant and graceful outlook. Many were the occasions when we used to spend hours together making the best of the least opportunity of meeting each other. The fact was that she liked my company very much and I admired her sweet temper too much.

"While I was thus spending my time happily with Kousi, I didn't fail to note a gradual change in Raghunath. He became disinterested in everything. He ceased to attend the classes regularly and spent most of his time in his room. The change in him, though it was not abrupt was no less emphatic. I couldn't think myself as the cause of his unhappiness for if at all I ever tried to hide anything from Raghu it was my secret friendship with Kousi since I feared that he might make fun of us with the other students. But Raghu refused to tell the reason whenever he was approached. Often he evaded me by saying that he was physically weak.

"That night I couldn't sleep, for Raghu's obstinate refusal affected me very much. When I went to Raghu's room, he was not asleep, but he was brooding over something.

"Raghu, why don't you go to bed? Not well? Why do you feel so dejected now-a-days?"

" . . . There was no untried refuge left for a moment's shelter from the terrible truth . . ."

Art : K. Sreenivasan.

"Venu, though I refused to tell you the reason so long, I can't hide it any more. You are my best friend. If you are sincerely interested in my welfare, please forget Kousi. I am desperately in love . . ."

"Raghu, but it is too late. I have developed a sincere attachment to her and to break it would mean to break my heart."

"Venu, if there is the will, there is the way. You can forget her, after all you are harbouring a serious heart disease. You may succumb on anyday to that treacherous devil. Do you like Kousi to take the risk and all the more incur the displeasure of your friend Raghu. You ask me anything as a price but please forget her."

I left his room. A stage was reached when I could no longer breath the sweet atmosphere of hope. I felt I should forget Kousi. There was no untried refuge left for a moment's shelter from the terrible truth. Favourable chance, I fancied is the god of all men, who followed their own devices. Let even a polished man of these days betray his friend's confidence, he will adore the same cunning complexity called chance. Formerly my heart had been a locked casket with the treasure inside, but now the casket seemed to get emptied for the lock was broken. Such was the response from my philosophic temperament to Raghu's request. And the only consolation I could have subse-

quently for this unfavourable turn of events was that Kousi's parents refused to consent to her marriage with a man having a serious heart disease.

"Next day I approached Raghu to request him to do me the favour of leaving their first daughter under my care when the time presents. A man falling into dark water seeks a momentary footing even on sliding stones and I warded off the moment of despair with such a favour granted."

"We parted after the examinations. It is more than five years since we left the college and the girl who is playing over there is the first child born to Kousi and Raghu. It is my only treasure. It is the only link between my broken heart and disturbed mind. I am a disappointed man who finds comforting words in her sweet look, who knows nothing of parental love but only knows one face and one lap towards which it stretches its arms for refuge and nurture."

He stopped here and looked up. The girl was not to be found playing anywhere in the near vicinity. She had gone far along the shore. The man ran after her and was soon lost in the crowd. I waited there for more than an hour but he never came back. And when I visualised the girl safe in his arms, I could find an interesting mixture of wounded affection and genuine delicacy in his behaviour.

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She kept his bond

By

A. GIRJA—Final Year.

IT was a little village in the heart of Bengal. Skirting the edge of the village, flowed the river Ganges majestically. The richness and gorgeousness of nature that gives wealth and grandeur to any place was indiscriminately lavished on this lovely village. The local folk simple and unsophisticated led a life free from the noise and bustle of the cities. They were not great but they were good and honest men and women, content with their lot, and led a happy life.

In the early hours of a winter morning, the village still slumbered in the arms of the night ; the dark sky glittered with myriads of twinkling stars. The cry of a distant owl, now and then, broke the stillness that filled the air. A lone light flickered in a far off hut in the eastern end of the village. Nandan had got up. Nandan the milk-man had migrated to the village as a mere child with his parents. He had a little schooling when he was a boy but soon he had to take up the profession of his father because his father passed away, and being the only son the responsibilities of the family fell on his shoulders. His life was a series of trials but with stoic fortitude he bore them and grew to be an old man.

For a while Nandan turned restlessly in his bed half awake, and then he looked through the open window at the starlit sky. For the heavens were his clock. Rubbing his sunken eyes with his pale hands he muttered " Yes, it is past three o'clock, she must get up ".

At the other end of the room slept Maya his grand-daughter. As Nandan turned his gaze on her, his eyes filled with tears. She was all that he had in the world. Maya came under his care when she was a little babe when his only daughter passed away. The son-in-law had migrated to the city and settled there. The family connection had been lost. For more than eighteen years Nandan had been both father and mother to the child. " O God, when I am dead, only you will have to take care of her ", he said walking towards her.

" Child, wake up, it's time to milk the cows." Maya was up on her feet in a moment. Without waiting for another word she rushed out of the hut with the milk-pail in her hand.

It was still dark, but she knew the way perfectly. Every morning and evening, for more than ten years she had taken milk to old Purushotham babu's house. She never felt unhappy to do this bit of work. She loved to do it. She longed to do it. What was the great attraction in it ? None else knew. Not even Nandan her grandpa. Only her heart knew it. It was the joy of meeting him whom she loved. As Maya walked in the dawn, deeply inhaling the morning air fresh and crisp, crossing familiar fields, passing by known houses, walking along the side of the Ganges, her mind also wandered. She had nobody in the world except her grandpa, and he was growing very old. Who would manage their little farm after his death ? And then, she loved a man who was richer and socially higher than herself. Could they marry ? What about society and convention ? As these diverse thoughts passed in her young mind she felt miserable and helpless. Tears swelled in her large eyes and flowed down her pretty dimpled cheeks. Mechanically her lips spoke " Mother Ganga, I have nobody in the world. Thou art my refuge ".

Gently opening the garden gate Maya crept into Purushotham babu's house. As usual instead of going straight to the kitchen she stood for a moment and gazed at a half-open window. Suddenly her lustrous eyes widened Her face flushed and her rosy lips parted in a smile Yes, he was there, awake, studding and waiting to see her. Tucking the end of her saree to the side she carefully waded her way through thorny thickets that bounded the little path, and reached the side of the window.

" Maya " gasped the youth standing behind the window railing and resting his fair oval

cheeks on the chill iron. In the gentle breeze his ruffled curls played about his broad forehead.

"Maya, you are so early today!" whispered Hari.

"I was asked to get milk early. Are you having guests in the house?" Anxiously questioned Maya.

"Yes, Maya, uncle and his daughters are coming from the city to-day." There was a pause. Both did not speak and then Hari continued. "Maya I will be leaving the village soon. Uncle has promised to get me a job, most probably I will be leaving with him. I do not intend returning till I am at a job and settled in life." Suddenly seeing tears in Maya's eyes, Hari burst out anxiously "O! Maya, what is the matter? You are a very funny girl. I always find tears in your eyes."

With a voice choked with tears Maya spoke. "Hari, I know you do not care for me. You always talk of leaving me. True, I cannot expect you to stay here always. But what will happen to me if you go away, O! Hari."

"Maya why should you feel sad. You are so beautiful and young. The whole village loves you. Soon you will forget me. There are hundreds waiting eagerly, to marry you."

"Hari, you are so good. You think the whole world will love me. Who will care for me, a poor village girl, who has nothing in this world except her tears?"

"But Maya, you are so good and sweet, who can ever dislike you?"

"Hari, the world does not care for goodness or sweetness. It is only people with money and position that are respected. I am not bothered if the whole world disowns me but Hari, I want your love."

When Hari heard these words of Maya, his sensitive heart knew itself: Grabbing both her hands in his own he stared into her eyes.

. . . . She would sit there pouring her heart to the smooothly gliding river . . . .

Art: K. Sreenivasan.

"Maya", Hari spoke gently, "though miles away I may be, you will always be with me, in me, in my very breath and blood. Whatever happens, wherever I may go, whomsoever I may become, I will always love you. I will come back to you as soon as possible and marry you. This is my word; this is my bond."

Hari had known Maya for more than ten years. When he first saw her she was a little girl. He knew her as the milkman's grandchild. It was she who brought milk every day to the house. Soon they became playmates. Every evening Hari used to go to the banks of the Ganges to play on his flute, and Maya would be there to listen to his music. As time rolled on, Hari left school, went to college and grew into a man; and Maya grew into a woman meeting him on holidays and vacations and with them grew a strange love.

The next day Maya did not see Hari at Purushotham babu's house. When she asked the servants they said that he had left for the

city with his uncle. Maya returned home, anxiety nested in her.

The days passed. The sun rose and set. The seasons faded from one into another. Leaves sprouted and dropped. Flowers bloomed and withered. Still there was no sign of Hari returning. Maya's large and lustrous eyes lost their sparkle and brightness. They became dreamy and sad. She wandered here and there like one lost in the wilderness.

Everyday, after the day's work in the house, she would rush to the banks of the Ganges and watch the little boats that brought people from the city. She would sit there pouring her heart to the smoothly gliding river. The distant flute of the shepherd tending his cattle home, would bring fond memories to her mind. Unable to bear the burden of her strife, she would sit there and weep.

It was a night in the month of December. A distant gong marked the mid-night hour, Maya lay tossing in her bed watching the moon floating among the clouds. Suddenly she turned ghastly pale. She sat up on her bed with a startle. Yes, it was " His " voice. She could hear the deep snore of her grandpa. Hastily throwing aside her shawl she rushed out of the hut into the darkness.

As she walked in the darkness, with a death like pallor, draped in a saree red, with sparkling eyes and tresses black as night flowing down her graceful nape, she looked like the spirit of night taking a stroll. Where she went she knew not. But like one possessed, with a determined look, she walked on, muttering " Yes, it's Hari calling me. I must go ". But nowhere was Hari to be found.

The morning brought the saddest of sad news. The night before, one of the little boats sank turning turtle in the great river and Purushotham babu's house was weeping and wailing as Hari babu was expected by that boat. By the afternoon confirmation came from the city that Hari babu had taken that boat. The whole village wept. But there were no tears in Maya's eyes. For her mind was set.

The twilight faded into the night and the fair form of a village girl stood by the edge of the ever flowing Mother. There was a thud, there was a splash. Once again everything became quiet and calm. The chill breeze blew unconcerned. The moon shone as bright as ever. The stars twinkled unworried, and with indifference flowed Mother Ganges, as smoothly as ever, as though she was not even aware, that her waters had swallowed two mad children of the earth who loved each other and kept their bond.

The eastern sky blazed in the golden sun rise. A strange sadness permeated the whole house. With hand on the forehead sat Purushotham babu in a reverie. Squatting on the ground at a distance sat Nandan, with his deep set eyes drenched in tears. " How strange " broke in Purushotham babu with tears gushing from his eyes, " the same misfortune has befallen both of us. I have lost my only son and you your only grand-child. O cruel Fate, why did you pitch upon the boat in which Hari was returning ? Why did you carry him away, that too on his way home, after so many years of absence ? Thou art heartless. Could you not take this wretched old body of mine . . . ". Unable to speak any further he buried his face in his massive palms. For hours they sat, silent, for their thoughts were too deep for speech or tears. Then Nandan spoke gently " Master, weeping is not going to help us. We were fated to lose our children in the holy waters of the Mother Ganges. Life is mysterious. Its ways are strange. We have to merely accept whatever comes ".

ON LAUGHING—

" The animals won't laugh, not even the hyena. They grin and guffaw but that does not indicate a sense of the ludicrous. You can't laugh by force of will any more than you can sneeze or hiccough. A certain tickling idea or sensation sets the process going."

—SIR JAMES CRICHTON-BROWNE.

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Suzee

By

T. S. RANGANATHAN—IV Year.

SUZEE was lying lazily in her bed after a day's heavy work musing vacantly over the cloudy sky, through the wide opened windows. The cumulus of clouds that threatened to pour down, occasionally shed a few drops of rains. The chill breeze was blowing smoothly through the panels of the window, making an ominous rumbling; except for this, there was an eternal silence every where.

Suzee turned her eyes towards the vast maidan that lay before her house and sighed a deep breath. As far as the eye could reach there was not a single moving soul. It lay vacant very like her mood and seemed to depict her lonely tasteless life.

She was not an ordinary "Suzee" as I called her. She was Dr. Miss Susila Devi—a very famous and talented private practitioner; she had almost attained that enviable perfection in her profession, which she used to dream about during her early childhood days. But yet she felt that something was missing in her wholesome happiness, some unknown corner of her bosom remained as vacant and dreary as the vast expanse that lay before her looks.

All of a sudden a sweet melodious voice of a beggar boy, full of grief floated in, smoothly with the breeze and tuned upon the hidden strings of her heart. For a moment Suzee was restless; an inexpressible and unknown feeling swept over her body and racked her soul. Tears spread over her eyes and blurred her vision. The music was slowly becoming louder and louder and took her back to her teens to that ever memorable incident in her life.

* * * *

Those were her happy childhood days, when Suzee was more than what a girl of her age would be. It was amazing indeed, that a girl of her status and wealth was fascinated by a vagabond, Kylas, the only care-free-son of a poor schoolmaster. Every day she waited for the last bell in the school with a heaving heart, just to rush back home, to find Kylas sitting on a huge piece of an isolated hill in front of her house and singing. First she liked him for his song, when she went and talked to him as a playmate she loved him more.

". . . But yet she felt that something was missing in her wholesome happiness . . ."
—Art : K. Sreenivasan.

Days rolled on into months and years; now Suzee has become a college student, but Kylas remained as the old vagabond Kylas. He was now more depressed and his tunes began to shape grievous things. He was sad, that Suzee didn't come to him to talk as frequently as she did once. But he knew that she heard his songs every day, sitting in her house close to the window in her room. He now began singing loudly expressing all his feelings so that she could hear him well :—

"I loved once a love. The fairest among
women, closed are her doors on me;
I must not see her : All, all are gone,
the old familiar faces."

Next day Suzee was returning from the college all alone mind absorbed somewhere, when she was attracted by somebody calling "Suzee" from behind. When she turned

back she was surprised to find Kylas waiting for her, dressed in a new attire.

"Suzee", how many times have I to call you, eh?"

"I am really sorry Kylas; how do you do?"

"Suzee I am leaving this place to-night. Would you like to come with me to the beach?" Suzee simply followed him.

"Well Suzee, I am the son of a poor schoolmaster. Do you think your father will accept to give your hand to this wastrel?"

Suzee drew a deep and hard breath and lifted up her young face.

"Don't worry Suzee. I am leaving this place only to make myself worthy of that invaluable pleasure, you are going to give me."

"But Kylas, would you ever come back?"

"Sure! But Suzee should wait for me."

"Well Kylas! Let me hear your voice once. Sing a nice song for me."

Kylas started the song in his usual style:

"I loved once a love; the fairest among women, closed are her doors . . . "

The song ended. Kylas was frightened to see Suzee weeping like a child. He found it very difficult to console and comfort her.

"Suzee, why do you weep like a child? Are n't you an educated girl?"

"Kylas, please promise me, you will never sing the song any more."

The very same song was ringing in her ears now. The same sweetness, the same grace, the same rises and falls of tone. Suzee was swimming for a moment in her past. She felt that her dear old Kylas was standing in front of her, leaning over her bed and singing.

Now it has become a story, a story which she can only read with the mental vision and sigh at it. For that was the last time when she met Kylas. In a few days Suzee had to leave the place with her parents to Delhi, where she was to join the medical college.

The engine raised a penetrating shriek and moved out of the platform slowly. Suzee, sitting near the window was gazing at the reels of smoke as it passed up and up until at last it merged one with the air. Her heart was heavy with grief, when she thought about Kylas. Her lover was lost! She was lost!! Above all the ambitions of their love was lost!!!

All these days she used to think about Kylas. Sometimes she doubted whether she still loved him. Sometimes she felt she cannot even remember how he looked like. She just tried to forget and thrust it all back into oblivion; but she felt that if Kylas stood before her at this very minute, she would remember everything and love him still.

With a flickering hope, that she will find out Kylas *one day or other, she was spending* her days.

* * * *

The music was becoming louder and louder. Suzee became restless and mad. She rushed out of her room to see two little beggar boys clad in rags, singing that song. Suzee couldn't hear it any more. She asked them to stop that song and threw a one rupee coin at them. The boys were rather perturbed. They looked at the coin and Suzee alternately and murmured in a whispering tone. "Rich"?

She couldn't understand anything. She was furious—"Yes, I am rich" she cried out.

The boys looked at each other's face inquisitively and turned towards Suzee. "How old are you madame?" The innocent kids, little seemed to be afraid of Suzee.

Suzee was amazed at the impertinence of the boys and asked them, "Why do you want it?"

"Excuse us madame. Our cha-cha friend has told us not to believe any rich lady of teens. *I hope you are not in your teens.*" The innocent boys smiled mischievously.

Suzee became very curious.

"Who is that cha-cha eh?" she asked them.

"He is our friend, madame. He tells us stories. He teaches us songs every night under the huge tree on the river banks. Madame, he is very good songster himself. He only taught us this song madame . . . ", so saying the beggar boys resumed the song, which they left in the middle.

Every movement of the boys, as they sang, reminded Suzee of the faint old figure of her lover Kylas. Every rise, and fall of tunes sounded exactly like that of Kylas. Every grace in the step brought before her the last day at the beach.

Yes, that cha-cha must be her lover Kylas, who had probably misunderstood her sudden disappearance. For a moment, the disappointed and dejected figure of Kylas, sitting amidst a group of pavement dwellers, preaching philosophy and teaching songs, floated before her.

She stood on the threshold of her house looking at the innocent beggar boys as they passed by, torn between the forces of fury and frustration. Everything seemed to reel around her. She wanted to cry out her disappointment, kick herself and scratch her face. She ran back to her room with the door locked behind her, she gave way to her angry tears and helpless fury.

Suzee woke up; now with a grit and determination and with a renewed brightness in her features. She had decided to go up to the river bank to see her Kylas and call him back to enlighten his life and that of her with happiness.

Suzee was half way up the river bank when the clamours of some urchins caught her attention, and she could see a huge big crowd of poor beggar boys standing on the road side near the river bank with a box in their hand collecting coins from the passers-by. She was moving hesitantly when the two old familiar boys, whom she met in her house, rushed up to her crying all the way—

"Madame, our cha-cha is dead. He is one with God, madame. His body is lying there and we are collecting funds to burn him." These words were ringing into Suzee's ears as if from a deep well. She was gazing at the lean, lank and poverty-stricken figure of Kylas lying at a distance, face turned to the opposite side as if in aversion to see her. The sprigtliness that dawned upon her face sometime back died leaving mournful creases between her brows. She still beheld Kylas and the smiling earth—a large train of disasters were crowding up to her memory and brought two drops of tears in her eyes.

"Know your patient first, and the disease afterwards."

"If the license to practise meant the completion of his education, how sad it would be for the young practitioner, how distressing to his patients!"

"To the physician particularly a scientific discipline is an incalculable gift which leavens his whole life, giving exactness to habits of thoughts and tempering the mind with that judicious faculty of distrust, which can alone, amid the uncertainty of practice, make him wise."

—SIR WILLIAM OSLER.

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Love and Reverence

By

P. C. RAJARAM—*Final Year.*

IT was only two days since I arrived with my parents at the "Summer Resort" on Sheveroys mountains. The hill station was really a heaven on earth. I walked to the window and looked out at the hill-tops. The cool breeze was so pleasant and refreshing; so too was the morning sun. I could see the distant plains through the deep vallies. There was an inexpressible calmness and serenity all around. The houses were few and far between and it appeared as, though men liked to live in solitude and seclusion amidst the thick forests and over the mountain tops—far, far away from the buzzle and crowds of the town. Innumerable varieties of colourful flowers flooded everywhere and Nature's beauty abounded in that distant wilderness only to pass unnoticed and unenjoyed by many. As I walked into the gardens the residual waters of last night's rains splashed and spirit round displaying beautiful colours. When I was fixedly looking at some flower I heard some one laugh from the other side of the fence. Then I heard several others laugh—all together. I went close to the fence, climbed over it and looked into the other compound. There I saw a young lady seated with four elderly gentlemen—all seated around a table chatting and laughing aloud even for trifles. The woman appeared to have born only to be cheerful—all the time laughing. And even her worst enemies who envied her most would not have contended regarding her beauty. The moment she caught sight of me, she rose up, walked towards me and looked into my eyes straight and steadfast and spoke in her sweet tone, "Good morning, Sir." As a gentleman, don't you know that it is not good manners to steal furtive glances at your neighbours?" Her clear voice sounded so sarcastic and satirical that it was hurting despite all its sweetness. All the men roared into laughter. And I was wondering why she should address a boy of fourteen as "Sir". To add to my stupified bewilderment she asked, "Why don't you join us young man so that we may be graced with your pleasant company?" Again they all laughed. I blinked more vacantly.

"What is your name?" Now her voice was full of sympathy and compassion. "David" I replied bluntly.

"David", she said, "you are a good boy. Will you go over to my house this afternoon at 3 o'clock? Do come without fail". I nodded, jumped down from the fence and walked to my house. When I was half on my way, I realized I had not thanked her for her invitation. What a fool I had been to have completely lost myself in her presence and driven to utter stupefaction. I walked silently into my room cursing myself for not having asked for her name. And when I was quietly resting on my couch, my lips murmured, "How beautiful she is!"

Sharply at 3 o'clock that afternoon I entered the small drawing-room in her house and she had been waiting for me. She introduced me to her mother.

"Oh, this the boy you were telling me about, Sheela" said the old woman, "Be seated David".

I was sitting before them with a muddled head, answering their questions shyly with the head bent all the time. It was a surprise to me to have discovered how high-strung I was. "Sheela" I said to myself, "What a beautiful name she has got!" I raised my head slowly to look at her. My face reddened when I found she had all the time been scrutinizing my face and analysing every feature and expression of it. She smiled her sweet smile while her eyes were articulating in dumb muteness the language of affection.

Sheela's mother had been widowed even when Sheela was a prattling child. Later she had to lead a poor life with the meagre pension she got from the Army Office. Thirty years have passed so swiftly and now Sheela has grown into an embodiment of perfect charm and beauty of youth.

Sheela took me to her room by the hand while I meekly followed her as if in a dream. I knew some change had come upon me and some dazed and confused feelings were clouding my mind. But what was that change? Who was that Sheela? Why was

I bound to her so much? I did not know. Sheela placed her hands heavily on my shoulders and shook me as if she was trying to wake up someone fast asleep. "Eh, David, are you dreaming?" said she with the same smile and the same sweet expression in her eyes. "I never knew you would take so much of care regarding your dress; but why could you not have knotted your neck-tie a little better?" Saying this she pulled out my tie and with her soft caressing fingers tied it nicely. She led me to her dressing mirror and said, "Now, look David, how do you like the knot?" "It is very beautiful—as beautiful as you are. I like it very much" replied I. I wondered at my boldness and audacity to have uttered such words. I laughed to myself. She looked straight into my eyes for a few seconds without a word, forced the rigid countenance that suddenly appeared on hearing my words into her usual pleasant smile and pinched my cheek a little violently and said, "when did you learn to talk such poetry, you naughty little child? All right, David, be seated now. You require a good combing." I was like a baby in her hands and obeyed all her commands. It was not Sheela's commands; but it was Beauty's high-command to which one would willingly submit. While combing my hair she was humming some melodious tune and I was all the time looking at her small, prominent chin that quivered in accordance with the vibrations of the music. "David, do you think I am beautiful?" asked Sheela. "Yes, you are very beautiful" replied I. "David", she held my face by the chin and asked "what do you mean by beautiful? What is beauty?" I looked helpless and did not know what I should say. Having repeated her questions several times to myself I said finally, "I do not know". She laughed her triumphant and victorious laughter, and talked, "David, see what a fool you are. You do not know what beauty is and what is meant by beautiful. Still you call me beautiful. That means you do not know who I am and what I am. That is the weakness of every man. It is the defect in everybody. And all commit the mistake of describing a certain unknown thing in some unknown expressions when they are bound to it by some unknown bond and admiration." I was constantly looking at her all in stupendous and wondrous admiration for her talk. Noticing my vacant looks she said, "All right, David, you are a small boy and you will not understand all these things. You remember those four old men you saw this morning. They were my father's associates in the Army and they come here to be of some help and guidance to our family. They are all a set of good people though not rich. They all think that I am still a child; and that is the one thing I do not like at all. Anyway I will be introducing you to them and I wish you must move with them like a smart boy though they might make fun of you. Will you be a clever boy, David?"

"Yes", said I smiling, "Miss Sheela, you talk about beauty like a philosopher".

"David boy, you can simply call me 'Sheela'. We make a good combination. I am a philosopher and you are a poet. You can compose all my philosophy in your little verses if you like. Can't you, dear?" said she and laughed merrily. I did not know what to say but to smile the most silly smile of a crest-fallen youth which most women long for and enjoy most.

That evening I was seated beside Sheela and all the four elderly men were making fun of me each in his own singular way. They asked me all sorts of questions and when I was at a loss as to what I should talk, Sheela came to my rescue. I found so much of protection under her guard and guidance. Those men called me 'little friend' and treated me very kindly.

I used to go to Sheela's house almost daily and time fleeted unnoticed in her company. She always talked to me kind words except on a few occasions when she pretended to chide me for my faults. She would sometimes advise me that I should be a hero, full of aims and ambitions. And whenever she went on talking like this I used to look into her eyes steadily as if bound to her in a state of incorporated oneness. Sheela had been to my house one day with her mother and I was so glad when she said that my room was neat and tidy.

One evening I had been sitting with Sheela in her drawing-room. The four old men were also present. One of them gave out a suggestion, "Now we will have a lucky dip. Each of us should pick up one of these envelopes. And whoever gets in his envelope the paper bearing a cross will take the child Sheela by the hand to the farther end of the

room and whisper into her ears something that pleases her. David boy, you will also be included in this". Saying this he put forth a few envelopes on the table asking each to take one. I took one and gave it to Sheela asking her to open it. She rose from her seat joyfully announcing "Here is the cross. It is David who has got it." I led her by the hand to the other end of the room, asked her to be seated on a sofa, took her face into my hands, bent down to her ears and softly whispered, "Sheela, I love you. Don't you like me?" I was eagerly awaiting her reply. I was profusely and tremendously sweating all over as if my whole self was fuming and fretting with excitement. She patted my cheek affectionately and said, "David you are a very good boy".

That eve while taking leave of her I went to Sheela's room and wrote on a sheet of paper:

> "Good night, good night, parting is such sweet sorrow,
> That I will say good night till it be morrow."

She read these lines and smiled in her usual sweet manner and said, "David, you are a good boy. You read general books too? It is good. You must read a lot and I will be so proud to hear some day in the future that you are a great man. Now, go home carefully and don't forget to pray for your Sheela. Good night".

"Good night, Sheela" said I and went home.

One afternoon I was sitting on the branch of a tree and enjoying the refreshing, pleasant breeze and singing a popular tune. I stopped singing when I saw Sheela coming along the foot-path at some distance. Her thoughtfulness and calm and composed countenance added to her beauty. Her slow and graceful steps and the way in which she held the Bible which she always had when she went out in the afternoons and the manner in which she held her head slightly slanted to a side—all added to her charming appearance. "Sheela!" I shouted. She raised her head slowly and smiled. She came beneath the tree and said, "David, what are you doing there? Get down, you naughty boy".

"Sheela where are you going now? Will you also come here and be seated beside me? Then I will sing to you the nice song you heard the other day." She laughed at my childish suggestion. "I am going to the Church," said she, "you are a fool David. Look here. You said you love me. I will now ask you to jump down from there for me. Do it if you are gallant. Will you?" Next moment I jumped down to the ground. Sheela rushed hurriedly to me saying, "what a foolish boy you are dear. I said that for fun. It will be about twelve feet high and I never meant you should ever be so very reckless. Have you injured yourself, dear?" She examined my feet and legs while I was still comfortably seated on the mud.

"Sheela, I am all right. I have not hurt myself at all. Please don't worry yourself. I will do anything for you—anything you ask me to do because ——" I stopped without finishing when my face flushed red with each throb of my heart.

"Because—— You love me so much. Don't you David?" said Sheela, "David, dear, I am so glad to hear it. You are a very good boy. You must always love me, love me as your own sister though I am born of a poor family. Won't you do it, my child?" Saying these words she took my face into her hands and kissed me in great ecstacy on my fore-head, cheeks and neck and she held my cheek close to her breast and talked in a soft voice, "David, my child, why don't you talk? Don't you love your sister Sheela?" Her heart was beating slowly and steadily and it appeared as though each beat of it preached into my ear the Doctrine of Fraternity. I found so much of relief from my excitement and emotional nervous strain when I was within her arms and I talked to her in a clear voice, "Sheela, I love you my dear sister. I will love you for ever".

She shook me by the shoulders, smiled to me and said, "David, you are always a good boy. I like you very much, I love you so much. I love to be with you always. Will you come to my house tomorrow afternoon? Now I must go to church. Kiss me, good-day". I kissed her good day and Sheela parted and walked along the foot-path. I was gazing at her till she passed the bend of

the path and then walked homewards reflecting upon events of that afternoon. I realized then that the unknown mask of some mysterious bond by which I tried to bind myself to Sheela and which had been absolutely imaginary and foolish had now passed off. The only thing in her that struck my eye—rather which I was able to detect in her was her beauty which I did not know how to judge correctly or appreciate properly. That mysterious bond which an inexperienced young boy still in green horn stage would attempt to weave round him and some one he came across whom he considered beautiful with pleasant and charming looks was no longer there in my heart. Now it was the bond of fraternity that kept Sheela and me in unity and my heart was full of regard and veneration for her apart from love.

Days passed by swiftly and smoothly. Sheela was to me as ever before. She was same to me as she was when she received me into her drawing-room the very first day we met. But I was changed a lot. I was bound to her still more and my heart was full of love and reverence for her. I went to the church every morning with her as usual. I prayed for Sheela as usual but with a slight change in that I placed her next to my mother. We used to go out daily as usual. She took me to many places and every day we visited some new place.

One night my parents were talking about Sheela and mother was expressing her utter displeasure for her. Any amount of father's attempts to convince her appeared to be futile. I knew mother did not like Sheela at all. She had always been disliking her and that was why Sheela did not come to our house after her first visit. Perhaps mother envied her for her beauty. Now mother was talking "I hate her. I hate that bitch . . ." Then father and mother were talking in whispers for some time. And I could not hear anything at all. I was wondering why mother was hating Sheela so much. She did not know she was such a nice lady. I heard my father talking now, "All right, then, we will move over to our place by next week." When I heard this I was very much shocked. "Oh, Sheela I have to go away from you within a week. Oh, I hate to go back to our native place. Oh! Sheela, after a few days we will be hundreds of miles away from each other. I cannot bear this. I cannot bear this—". I sobbed and cried till at last I wept to sleep.

Next morning when I woke up, I felt some vague inexpressible aching all over my body and the first thought that came to my mind was about Sheela. "What a nice lady she is. How good she is." I repeated these sentences to myself many a time. Sheela had asked me to go over to her house that eve. "I will go in the afternoon itself" I said to myself, "I must meet her at the earliest time. I must meet her soon".

Father returned home that afternoon late. He was not back for lunch too. He seemed to be thoughtful about something. Perhaps he was busy with arrangements for our journey—. I went to Sheela's room. She was sitting before her table resting her cheek on it. Silently I walked to her thinking that she was having a nap. To my astonishment I found she was sobbing. "Sheela" said I softly. She was almost startled by my voice for my arrival there was quite unexpected. She drew me close to her and tried to talk as sweetly as she would ever do when nothing had happened at all. "David, I am glad you have come early. I was praying God that you should come here now itself. I am glad my wish has kindly been granted. Oh! David, I feel so much consoled in your company. You are such a sweet, little boy dear. Talk to me sweet words so that you can rid your sister of the anguish of her heart."

"Sheela, why were you crying? Did you know that we would be leaving for home next week? Please do tell me, why you were crying? Why does not mother like you? Sheela do tell me why you were crying? I cannot see you in tears. I cannot bear it . . ." I knelt before her, buried my face into her lap and cried.

"David, my dear little child, you should not cry like this. You must take leave of me with all joy. After all we will part only to meet again. And won't you come again to this place to see your Sheela?" Her voice grew faint.

"Sheela", I cried again, "why can't you meet my mother and try to convince her?

Why don't you and your mother come away with us? We have got a lot of property and you can live with us."

"My child, you are very, very innocent. How can we come away like that?" She took my face into her hands and said, "you must be cheerful even while parting from your Sheela. Let me see you smile— Ah! you have got the same sweet smile, same lips, same chin and the same bright and brilliant eyes". Saying this she kissed me in ecstatic excitement.

"David, we will be moving over tomorrow to our 'Lake View Cottage' on the other side of the hill two miles from here. Will you come to my house before leaving for your place?" I nodded my head silently.

"Sheela, are you in love with anyone here? When will you marry? Will you invite us for your marriage?"

"My child, I will not be marrying anybody in my place. I will certainly invite you if I am to marry. I will never forget you. I know your native place and I will be going over there often only to see you darling. And now kiss me Good-bye."

I kissed her good-bye and we parted. Next morning Sheela and her mother had shifted to "Lake View Cottage". Oh! how painful and agonizing it was to be without the tenderness and affection of Sheela.

The day before our departure I wanted to go to "Lake View Cottage", and meet Sheela. That eve I walked to her house and Sheela. That eve I walked to her house and by the time I reached there it was past 7 p.m. It was a cloudy evening and it was pitch dark everywhere. When I ascended the steps and walked towards the door, I was taken aback by a familiar voice I heard in the house. It was the voice of my father!

"So Sheela, you won't be going along with us to our place inspite of my promises to provide you all that you need. This is your decision?" His voice was curt with full of indignation. I wondered why Sheela refused to accompany us inspite of my father's request. How good of father it was to have asked Sheela to go with us! Then why did Sheela talk to me that afternoon like that? Now I heard her speaking in the most appealing tone, "Pardon me, my dear. I do love you. I loved you the very first day we met; but it was not late when I realized that my love had trespassed and flowed into a forbidden land that had already been reigned by some one who love you most. It is true that I was willing to marry you; but I do not want to intrude myself in the happy life of your wife. I do not want to crush her happiness. And above all I love that dear child David. He should live happily with his mother as usual. He loves me so much now. If I am to make his mother's life unhappy, that child will begin to hate me. And I cannot stand his hatred. I love him very much. I cannot stand his hatred. Please do pardon me dear. I must stay out of the scene for the sake of that child. Oh! I cannot come with you", Sheela was now wailing and crying bitterly.

"So you are going to make your life barren and wasteful" shouted my father in extreme wrath.

"It is not a waste dear," replied she in a composed and determined tone, "I will usefully spend my life in praying for my David. I will remain here and spend the rest of my life in serving Him and His fellowmen".

"Sheela, you are a god", I said to myself. "Now I know why mother does not like you. Now I know why, on that afternoon, you said to me, 'You have got the same smile, same lips, same chin and same bright and brilliant eyes'. Oh! Sheela you are really a god".

Now I heard my father's voice again, "Sheela! you are cruel. You talk all sorts of philosophy; but you do not understand the realities of life, nor do you care for my feelings. You are driving me away from here in utter disappointment. You are driving me to desperation ——."

"Kindly forgive me and forget everything" she interrupted and talked slowly, "I send my love to David. Kiss me Good-night and Farewell."

I looked through the window and found Sheela kneeling before my father extending both her hands towards him. She looked like a Goddess in trance and my father was standing before her like one whose only pur-

pose and intention was to disturb her trance and disrupt her happiness. He was fixedly looking at her face and all on a sudden his face changed. The hardness on his face had worn away and the mask of unfeeling indignation had vanished from his countenance. Oh! even the most inhuman and heartless men would have changed their minds if they looked at Sheela's face and the sweet and angelic smile that adorned it. She had so much of reverence for the man she loved and it could clearly be discerned in her looks. I looked at Sheela once again, rushed out of that house and went running to my house. I went straight to my room and lay on my bed. And amidst painful sobs, my inner voice was repeatedly whispering, "Sheela, my dear, you are an angel; you are my God."

FOR MEN ONLY!—

"Though girls are tasteless, hard, and selfish,
Boys think them sweet and soft and elfish."

* * * * *

"Give a woman food and dresses
(Chiefly when her trouble presses),
Give her gems and all things nice;
Do not ask for her advice."
"A wife forever nagging
And falling in a rage,
Is not a wife, say sages,
But premature old age.
Therefore with patient effort
Avoid the very name
Of every earthly woman,
If comfort be your aim."

* * * * *

"I left my family for her;
I gave her half my life;
She leaves me now without a thought;
What man can trust his wife?"

* * * * *

"Woman is LOVE'S victorious seal,
Confers all good. If for their weal
(Supposed) in heaven or for salvation
Dull men hold her in detestation,
Love strikes them for their sins forlorn,
And some turn naked monks, some shorn;
Some have red garments; others wear
Skull necklaces, or frowsy hair."

* * * * *

"The lighted funeral pile you may
Break up and fling apart;
But love, when torn and patched again,
Lives in an aching heart!"

(THE PANCHATHANTRA).

"The Jocular Vein"

" A jest's prosperity lives in the ear
Of him that hears it; never in the tongue
Of him that make it."—*Love's Labour's Lost,*
Act V. Scene II.

* * * * * * * *

The preacher came along and wrote upon the sign board: 'I pray for all.
The lawyer wrote underneath: 'I plead for all.'
The doctor added: 'I prescribe for all.'
The plain citizen wrote: 'I pay for all!'

* * * * * * * *

A British professor of Medicine concluded his series of lectures with the remark: " Gentlemen, probably half that I have told you in the course of these lectures is untrue; unfortunately, I don't know which half!"

* * * * * * * *

"Dear me!", said the lady to the superintendent of the insane asylum, " What a vicious look that woman has, we passed just now in the corridor. Is she dangerous?"

"Yes, at times," replied the supdt., evasively.

"But why do you allow her such freedom?"

"Can't help it."

"But isn't she an inmate and under your control?"

"No. She's neither under my control nor an inmate. She's my wife!"

* * * * * * * *

"Farmer Brown, I can't come out to see you any more."

"Why, what's the matter, doctor?"

"Why, every single time I come out, your ducks insult me."

* * * * * * * *

A member of the faculty of a London medical college was appointed honorary Physician to His Majesty, King George, and he announced that fact proudly to his students by writing a notice on the black board.

When he returned to the class in the afternoon he found written underneath the notice this line, " God save the King!"

* * * * * * * *

The pharmacist had to speak vehemently to the man loitering in the store. " No smoking please."

" But I just bought the cigar here."

"Look," pleaded the pharmacist, " we also sell purgatives here, but you can't enjoy them on the premises."

* * * * * * * *

" Surgeons," commented Dr. Osler, " should have an eagle's eye, a lion's heart, and a lady's hand."

A Surgeon had the first two, but, when he was caught holding the third, there was trouble from the lady's husband.

* * * * * * * *

" What is the function of the stomach ? " asked the teacher to the boy in the Hygiene class.

" To hold up your pants, Sir," he answsred.

* * * * * * * *

Sometimes dire tragedy strikes the female anatomy. This limerick proves it:

There was a young girl from St. Paul
Wore a newspaper dress to a ball.
The dress caught on fire,
And burnt her entire
Front page, sporting section and all.

* * * * * * * *

A medic despite office hours and operations, managed to father eight children.

While he was at the hospital one day his wife answered his 'phone. A woman patient had a great problem. " Does doctor practice birth control methods ? "

" Not to my knowledge " replied the wife.

* * * * * * * *

A doctor fell in a deep well,
And broke his collar-bone.
The moral: Doctor, mind the sick
And leave the well alone.

(A COLLECTION)

THE BED PAN—

" What makes girls fight shy of nursing—— ?
The BED PAN.

What makes patients shy of nurses—— ?
The BED PAN.

What makes probationers slink down the ward like a guilty thing surprised—— ?
The BED PAN.

What gives sisters that soured look—— ?
The BED PAN.

What causes wound disruption, ventral hernia, and recurrence after heria repair—— ?
The BED PAN.

What gives elderly patients decubitus ulcers over the sacrum—— ?
The BED PAN.

What is the cause of pulmonary embolism and coronary infarction during convalescence—— ?
The BED PAN."

—Sir Heneage Ogilvie.
(*The Practitioner, April* 1954).

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Sida Cordifolia
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Cubeba Officianalis
Cidrela Toona, &c., &c.

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A FEW OF THE MANY

Dr. Moti T. Ram, M.B. B.S., Lucknow :—" Last time I ordered you six bottles of LODHRA. Allow me to tell you that I have found very satisfactory results in different diseases of women in my general practice."

*   *   *

Dr. Nawle, Hollywood, U.S.A. :—" It gives me great pleasure to inform you that your LODHRA is indeed very excellent and marvellous for ladies. I never forget to take it in my personal medicine chest. It is the BEST FRIEND for lady travellers."

*   *   *

Dr. D. L. Jagannadha Rao, Registered Medical Practitioner, B. N. Ry. Camp, Arang Raipur, C. P. :—" I am extremely glad to note the marvellous therapeutic properties of your patent LODHRA, which I have tried in many of my cases with excellent results."

*   *   *

Dr. K. M. Kudva, M.B. B.S., The Popular Pharmacy, Kollegal :—" I have not tried any of your medicines except LODHRA which I am glad to inform you, has proved very successful in all functional disorders of the Uterus."

*   *   *

Dr. V. Devanayagam, L. M. Hospital, Kazhacuttam, S. Travancore :—" Some time ago I got from you a few bottles of LODHRA. I find it an excellent preparation where a sedative action is needed on the uterus. It does not upset the stomach."

Letter to the Editor

Dear Sir,

"Can you tell me something about the scope for Post-graduate training in Medicine in the United Kingdom? To whom does one write for general information? Whom does one contact on going there who can help me by suggesting suitable accommodation (digs, flats or houses)? How can I contact the leaders of the speciality which most interests me? How does one obtain a hospital appointment under the National Health Service in the UK? What is the procedure to get registered? Why is it important to belong to one of the Medical Protection Societies?"

I have been asked these questions by so many doctors cherishing ideas of gaining post-graduate experience in the UK that I request you to let me use your columns to say something about the Empire Medical Advisory Bureau.

Sponsored by the British Medical Association and run by a very genial and helpful person called Dr. Sandiford, this Bureau was established with the specific object of making the stay of visiting Indian doctors, among others, both pleasant and profitable. The Bureau is there to answer their questions, sort out their difficulties and solve some, if not all, of their problems.

The Bureau is harboured in B. M. A. House, London. Its annual publication "The Survey of Regulations for P. G. diplomas and courses of instruction in P. G. Medicine" is a veritable mine of lucid information. Not being bound down by 'red-tape' it is able to answer queries in a friendly way without the use of platitudes. It arranges visits to the big London Hospitals and helps to provide contacts with other members of the Profession in the UK as well as other Indian doctors in London by arranging social functions. Many of the most eminent leaders in Medicine

attend these gatherings and it is a stimulating experience to hear at first hand the pioneering effort of some great surgeon, or the most recent experience of a physician in an experimental branch of medicine (experience that may yet be on trial and not have found the light of print).

To make the visitor feel welcome the moment he arrives in the UK, the Bureau arranges to have him met either by the Port Medical Officer or at the airport. Anyone planning to visit the UK could do no better than to write to Dr. H. A. Sandiford, Empire Medical Advisory Bureau, B. M. A. House, Tavistock Square, London, W. C. 1., and get him to answer all their questions. If they have made arrangements to go they should indicate how they expect to travel (by sea or by air), when they expect to arrive in the UK, whether they will travel alone or with family, the purpose of their visit, be it for pleasure or post-graduate experience or both as it usually is. Should they be able to carry with them a letter of introduction from the Secretary of their local Medical Association, this would be welcomed as it helps to continue that close relationship of the medical fraternity all over the world, yet another object with which the Empire Medical Advisory Bureau was founded.

Yours etc.,

No. 8, Rutland Avenue,
Nungambakkam,
MADRAS-6.
July, 1954.

VISHNU SARMA,
M.A. (Cantab), M.B., B.Chir, M.R.C.S. (Eng.),
L.R.C.P. (Lond.).

10 DEC 1955
MADRAS

STANLEY MISCELLANY

IN MEMORIAM

Dr. C. R. Veeraraghavan, M.B., B.S., Graduated at Stanley Medical College in April 1952. After house surgeoncy, was having a lucrative practice at Ayanavaram and Purasawalkam. Expired after a brief illness on 17-9-54. Was a good student, kind and sympathetic by nature and a loving friend. May his soul rest in peace.

Report of the Stanley Medical College Association, 1953 - 1954

MR. PRESIDENT, RESPECTED DEAN, HON'BLE SRI V. V. GIRI, MEMBERS OF THE STAFF, FRIENDS AND COMRADES :

It is my proud privilege to present before you our report for this year.

Our growing Association has shown considerable progress during the current year with the introduction of a number of new features.

The activities of the Association were inaugurated on 10th August 1953, by the Hon'ble Shri Tenneti Viswanathan, now Minister for Finance, Government of Andhra. Our Student-President in the newly introduced Presidential robes took the chair.

The Independence Day celebrations were marked by a symposium on 'Democracy in India'. After an impressive march-past by the N.C.C. and hoisting of the flag by the Dean, we listened to the fiery oration of Mr. Mohan Kumaramangalam and the brilliant defence of Mr. V. T. Rengaswamy Iyengar and Dr. A. Anantanarayana Ayar.

The usual elaborate arrangements and a very nice variety entertainment programme greeted the New Graduates on 21st August 1953. The Chief Guest, Dr. Rm. Alagappa Chettiar, wished the young doctors all success for their future.

The Onam Day was celebrated with the usual grandeur by a well represented Committee of the College and the Hospital under the distinguished Chairmanship of our erstwhile Professor Dr. K. C. Paul.

The Bharathi Day was celebrated in September 1953 under the Presidentship of Shri Rasa Kannanar.

The inauguration of the Andhra State was celebrated on a grand scale by the members of our Association.

The Pongal Day celebrations and the Drama 'Kalvanin Kathali' accompanying it were very much enjoyed by all. Several Colleges participated in the inter-collegiate one-act play competition in Tamil, another new feature along with the usual inter-collegiate oratorical competition held on the occasion.

The Stanley Medical College Dramatic Society which is an integral part of the Pongal Celebrations Committee, staged Devan's 'Mythili' at Annamalai Hall on 31st August 1953 and we are proud to announce that the entire net profit of Rs. 3,000 was donated to the Cardiology Fund. Hon'ble Sri C. Rajagopalachari who presided on the occasion paid glowing tributes to the histrionic talents of our amateurs and greatly appreciated the spirit behind our venture.

Under the Presidentship of our ex-Mayor Sri T. Chengalvaroyan, the same play was staged in aid of the Stanley Medical College Old Students' Association and a handsome sum of Rs. 1,200 was given to them.

Another Drama Kalki's 'Kalvanin Kathali' was put on boards on 31st January 1954 in the immediate presence of His Excellency the Governor of Madras in aid of Bone Tuberculosis Fund by the Stanley Medical College Dramatic Society under the auspices of the College Association. A donation of Rs. 1,501 was handed over yesterday, 9—3—1954, in a function held in Tuberculosis Sanatorium, Tambaram, to our Chief Justice Shri P. V. Rajamannar, the President of the Provincial Welfare Fund Committee.

We are also happy to record that a sum of nearly Rs. 1,000 was collected by our students for the Godavari Flood Relief Fund and it was handed over to Shri Narala Venkateswara Rao, the President of the Flood Relief Committee.

Another new feature of the year was an entertainment got up by the students for the patients of the Stanley Hospital on the Deepavali Day. Hon'ble Shri C. Subramaniam who presided on the occasion, congratulated the students on their fine performance and expressed the hope that Stanley's example would be followed by other Colleges also in this, as in other fields.

It is also of great significance that the General Secretaries of both the Inter-Colle-

giate Organisations of this City were elected from our College—Mr. P. C. Reddy for the Madras College Students' Council and Mr. S. Kalyanaraman for the Madras Students Social Service League. We are proud of these signal honours, bestowed on Stanley.

The need for a permanent stage in our College has been felt for a long time and the spade work done by several of my predecessors has enabled me to complete the task with the help of my colleagues and we wish to express our thanks in particular to Dr. C. Raghavachari for his liberal donation towards the same.

Of course the stage is not complete without a fully equipped microphone set. Circumstances didn't permit us to complete the work by this day. But I am quite confident that it will be possible for us to instal a mike before we leave the office in June 1954.

Another new venture was the taking over of the Canteen by the Students' Association. The present Canteen Committee has registered several improvements in the Canteen and I hope that in future the Canteen, under the students' management, will bring entire satisfaction to one and all.

In the field of Social Service, again we lead and our annual budget in this direction has exceeded Rs. 20,000. The Magazine Committee and the Sports Association have also done very good work during the year under review.

On behalf of my colleagues and myself, I take this opportunity to express my heartfelt thanks to several of the distinguished Speakers who have been kind enough to participate in the various functions of this year.

In this year, we had to undertake several new and bold ventures one after another. It was indeed a great responsibility on our shoulders. What gave us courage and conviction to undertake these stupendous tasks was the confidence we had in the members of the Association. It was this unique feature of the whole-hearted co-operation extended to us by each and every member of the Association and the unstinted co-operation of the respected members of the staff of our College and Hospital that brought to our institution whatever success we have had and I thank you, one and all, for the invaluable help you have given. In particular, I am very much indebted to our beloved Dean and Vice-Principal for their guidance and encouragement all through the year.

Thank you,

(Sd.) R. VENKATASWAMY,
10-3-1954. *General Secretary.*

YOUR NOSE—

Your nose falls into one of the five classes, says Dr. Jacques Henry of Canada. These are the five categories :—

(*a*) The slightly aquiline Roman nose.
(*b*) The short Grecian nose.
(*c*) The thin crooked blunt nose.
(*d*) The snub nose.
(*e*) The flat nose.

Journal of the Stanley Medical College, Madras

1953 - 1954

Though we were elected unanimously for the posts of the Editors and Publishers of the above Journal, we have to mention that there was in truth a lot of mighty opposition from our own dear and intimate friends who advised us not to take up this responsibility, their chief point of argument resting on the grounds that this is not only a tedious and time consuming job but also a difficult and thankless job of the highest order. Finally when we took it up every procedure seemed quite new and trying ; but somewhere in our hearts was there the ever-increasing enthusiasm always heartening us up, preaching in the sweetest tone, "you must make your office a grand success". Whether or not we have achieved it, has to be decided by our teachers and friends and hence we leave it to them.

The learned say that experience is a very hard teacher since it gives one the test first and the lesson last. This had certainly been corroborated when the "inner voice" in us whispered to us softly but with immense definiteness "Had you done that, it would have been still better and more perfect." Of course, a fervent attempt had earnestly been made to reach as far nearer to perfection as possible. We wish our successors will improve upon our Journal much more and nearer towards perfection still further.

During this academic year, we published two issues (both of which were general numbers) one in September, 1953 and another in March 1954. To surmise the multifarious difficulties met with in our maiden attempts still in the green-horn stage, in the publication of the Journal will not only be boring to the enthusiastic and capable lot of our students, but it will also be discouraging to our successors. On the other hand, to talk about the success of our office (as everybody puts it) is helped and checked by modesty. So will we do neither. But we would only like to mention that both the issues were well received by one and all and we thanked all the members of the staff and students who so heartily rewarded us for our work with such cordial appreciation of our Journal.

Exchange copies and complimentary copies have been sent to all the Medical Colleges in India and to all the Colleges in the Madras City and to a few Arts Colleges in the moffusil. Complimentary copies were also sent to several of the private practitioners on request. Copies of both the issues were sent to the Editor of the British Medical Students' Journal in reply to the exchange copy received from him.

Regarding the financial position of the *Journal we gladly announce that it is per*fectly stable and satisfactory. During the publication of our second issue, we have increased the advertisement rates and this has considerably elevated the income *via* this source of the Journal. We feel proud of leaving a reasonable surplus in spite of the publication of two costly issues.

	Rs.	A.	P.
Bank balance on 28th July	255	15	6
	53	0	0
Cheques with Treasurer—			
	30	0	0
	27	8	0
	65	0	0
Net surplus for the year 1953-54 ..	431	7	6
Total expenses incurred during the publication of two issues ..	3,242	7	9

We thank one and all for their kind cooperation and active interest in the working of the Journal and wish our successors the best of luck. *Adieu.*

(Sd.) P. C. RAJARAM,
Editor.

(„) S. P. KIRUBANIDHI,
Associate Editor.

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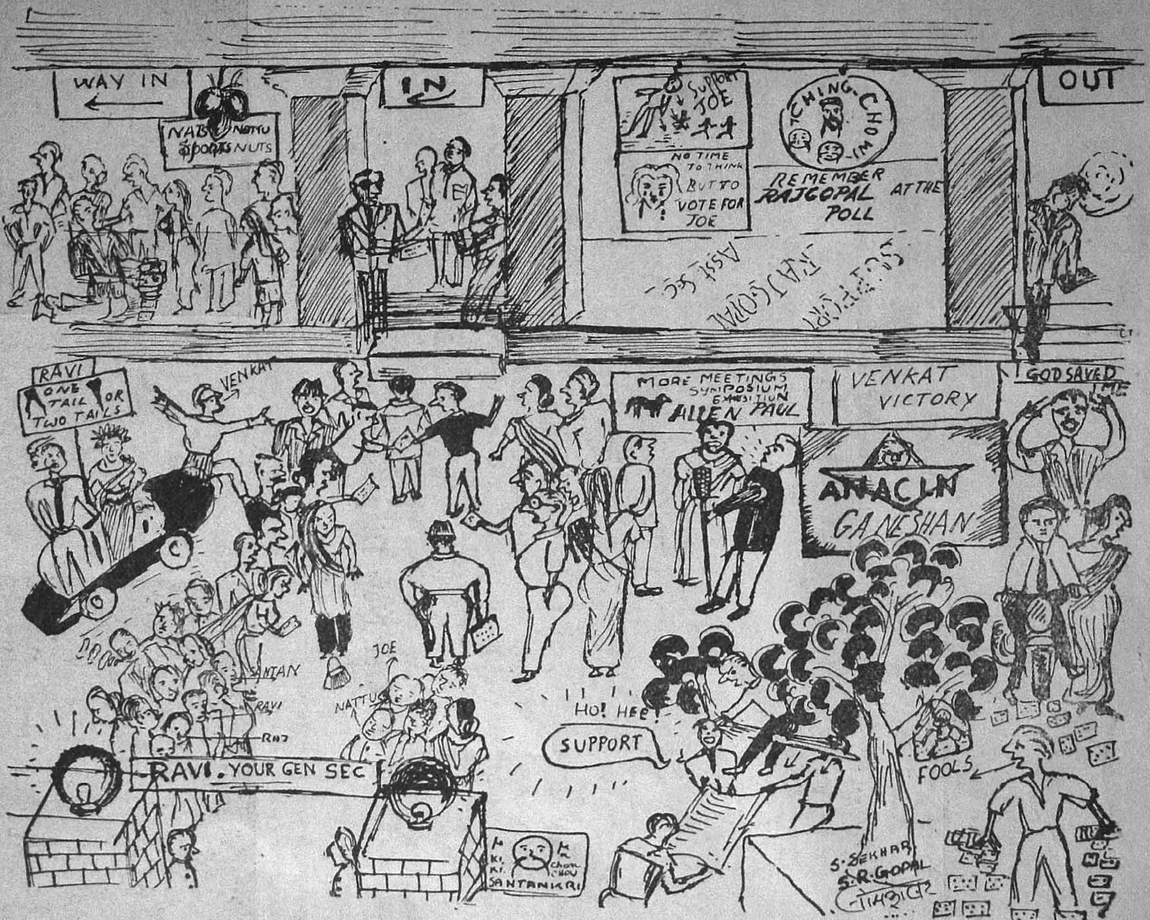
ELECTIONS AT STANLEY



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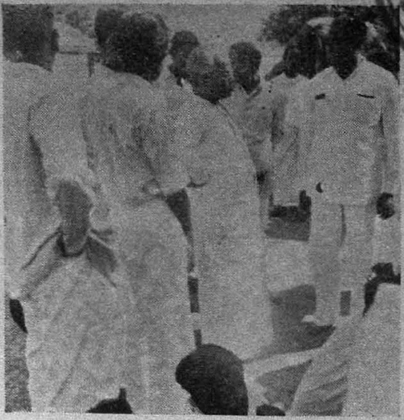
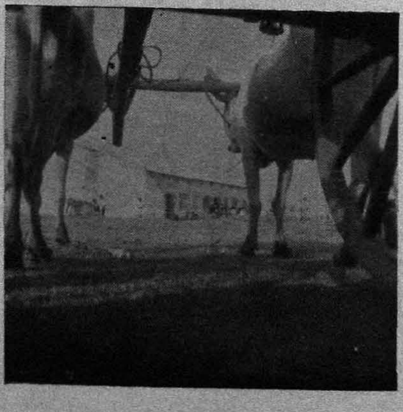


The Hon'ble Sri M. Bakthavatsalam during the Social Service League Day at ALAMADI

*

Our New Dispensary at ALAMADI

[*Photo* : R. GOPALAKRISHNAN]



[*Photo* : BHUVARAHAMURTHI]

Annual Report of the Rural Medical and Social Service League—1954

"Our predecessors have played their part, they did their utmost inspite of odds and calamities. Now it fell to the lot of the new band of workers to see that the edifice they have built shines out in equal if not greater glory. Difficulties and impediments there were and there were many. Such was the beginning of the year under review. But it was a good fight that we fought. They were brought to surrender and it was in no small measure due to the infallible Stanleyan spirit that animated us all."

So said the last year's Secretary in his annual report. That is true this year also. The financial position of the League was not very encouraging when I took over from the previous Secretary. But for the timely financial help given by Dr. C. Raghavachari we would have suffered much in carrying out the activities of the League.

Our thanks are due to Sri Ramakrishna Kripa Amateurs for staging the drama "Sivakamiyin Sapatham" on 2nd August 1954, in aid of both the League and the Ramakrishna Mutt Dispensary. In this connection we owe a great debt of gratitude to Dr. C. Raghavachari who has been the connecting link between us and Sri Ramakrishna Kripa Amateurs. Thanks to his efforts the League was enriched by nearly Rs. 5,000.

The League has been visiting Alamadi every Sunday with religious regularity. Our work is so popular that people from within a radius of 15 miles attend our clinic.

Our Leprosy department has been completely re-organised under the guidance and help of Dr. K. Ramanujam, Assistant Director of Leprosy Research and Survey and Prof. T. N. Jagadisan, Hony. Secretary of the Hind Kusht Nivaran Sangh. Preventive and propaganda work has been taken up with the help of experienced social workers in addition to introduction of the latest forms of treatment. A batch of twenty students have been trained specially for Leprosy Survey to know the extent of our problem and deal with it realistically.

I have great pleasure in announcing a grant of Rs. 5000 from the Central Social Welfare Board, Planning Commission, New Delhi, for expanding our Medical Relief work. In this connection I would like to thank the Bharat Sevak Samaj for helping us in this matter. This year we had the honour of the presence of Shri G. E. Muthirulandi, I.A.S., Collector of Chingleput. He appreciated our work very much. He approved an estimate of Rs. 7,200 for roofing a building near Alamadi and make it a pucca Dispensary. In this connection a 50% grant of the total expenditure was made by him. The building was completed in March 1954 by Messrs. Gannon Dunkerley & Co. We are thankful to them for the quick and neat execution of the work. We are also very grateful to the Deputy Collector, Trivellore, the Tahsildar, Ponneri, and Sri A. V. Subramaniam, P.W.D. Superviser, Stanley Hospital, Madras for helping us in this matter.

We would be failing in our duty if we do not mention the continued interest evinced in our League by the Dental Surgeon Dr. Thevar and Sri Veeraraghavan, Secretary of the St. John's Ambulance, Madras.

We had the honour of the presence of Mr. T. S. Ramachandran, I.C.S., Community Projects Officer.

We had also the honour of the presence of Shrimathi Maragatham Chandrasekhar, Deputy Minister of Health, Government of India. She said, "the students of the Stanley Medical College deserve all praise for the excellent work they are doing in rural areas around the City of Madras. I had the opportunity during my visit to Madras of seeing them at work in Alamadi village. It is an unfortunate fact in India today that extent of Medical Relief provided in rural areas is far from adequate. The students of this Medical College are rendering medical aid in the villages around Madras City under the supervision of well qualified doctors from funds collected by their own efforts. Alleviation of human suffering is the noblest of all service and here is a band of young men and women who are engaged

in it. People rich or poor are treated alike. The example set by the Stanley Medical College students is worthy of emulation. It is such work that will make India healthy and prosperous. I send all my good wishes to these young students."

The 3rd Anniversary of the League was celebrated on 14th February 1954 at Alamadi. Hon'ble Sri M. Bakthavatsalam, Minister for Agriculture, presided over the function.

A Social Service Camp was conducted during the month of May 1954 for nearly 20 days. All of us stayed in the newly-built dispensary. A health survey was conducted and the results will be published shortly. We constructed model latrines with water seal slabs. People are taking great interest and some of them are to build latrines for their use. A great achievement during the camp was the mass inoculation of the people especially the children with B.C.G. Vaccine. The B.C.G. team came for 3 days during the camp for tuberculin test and B.C.G. vaccination. In this connection, we are very grateful to Mrs. Phillips, Director, Tuberculosis Institute, Egmore and the B.C.G. team for their help in carrying out the campaign. The dispensary was kept open from morning till night. We had a daily attendance of nearly 100 people. We had a good experience. During the campaign we had the opportunity of attending to some emergency cases. One is a case of delayed delivery. The other cases were cases of scorpion bite. We tested efficacy of emetine Hcl. It gave immediate relief and the patients were satisfied. The delivery case was managed in such a way that the whole village praised our skill and thanked us for the help. The people were telling me that they liked the dispensary to be run daily. This not only reduces the crowd on one particular day but gives more opportunity for the doctor and patient to meet each other several times for correct diagnosis and treatment. I am very grateful to all the students especially the following: Messrs. Naimuddin, N. Subbiah, C. E. Sivados, Mohamed Basheeruddin, and H. M. Nichani for making the camp a success. I regret that though many students promised to attend the camp, they let me down miserably by not coming to the camp. We had with us Dr. Abdul Shukoor, Dr. E. M. Abdulla and Dr. Nemiraj, by turn. We had the unique honour of the presence of Dr. C. Raghavachari, Dr. Narayana Rao, Dr. M. D. Ananthachari, Dr. K. S. Sanjeevi and Dr. Srikantan during the camp. I am extremely thankful to Dr. B. S. Srikantan for making excellent arrangements for our food, and Dr. Asirvatham for his kind help. I also express my deep sense of gratitude to D.H.O., Chingleput, and Health Inspector, Trivellore, for their kind help. The camp would have been more lively if many students were to have taken part.

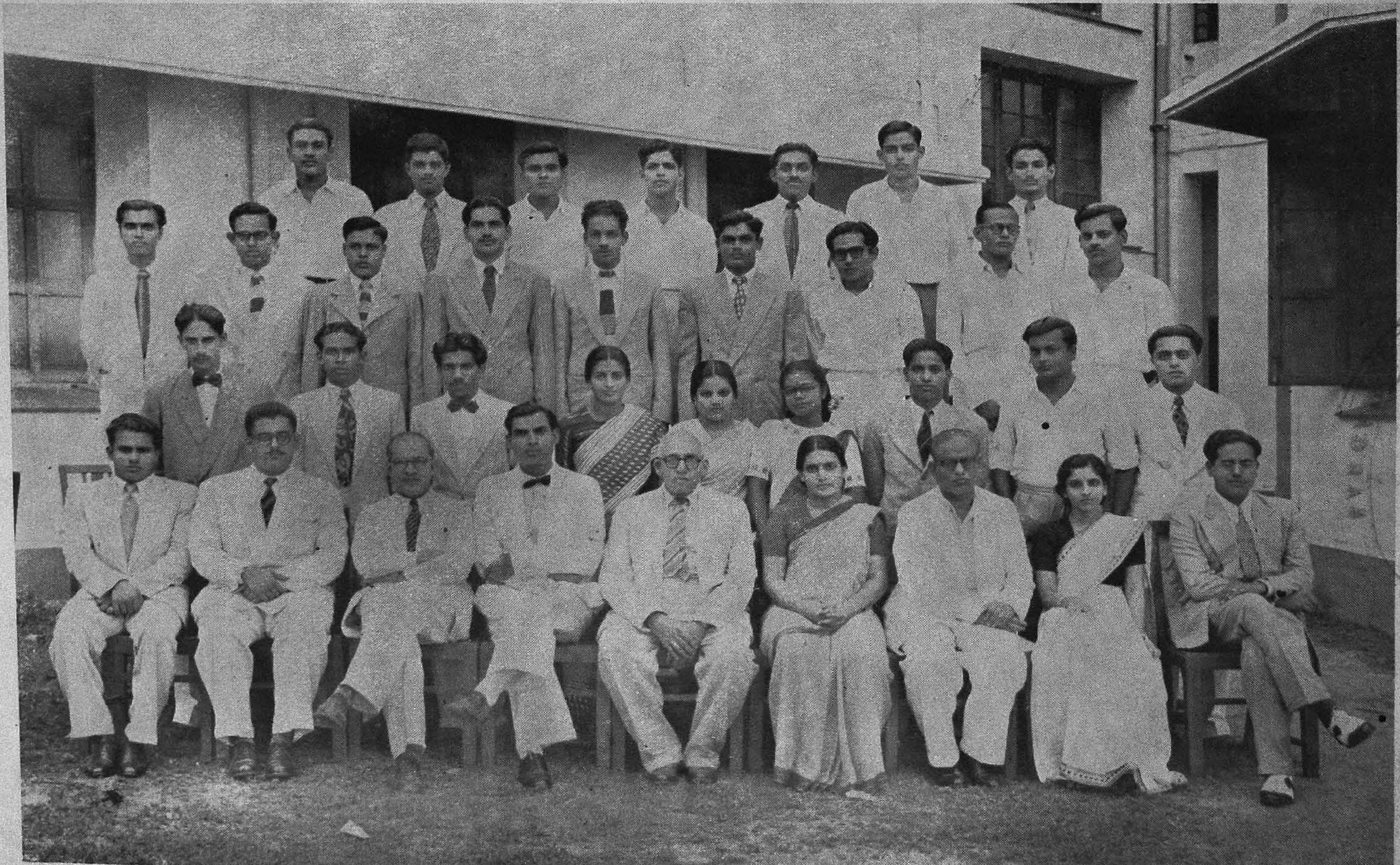
Lastly, I thank sincerely all the students who helped me very much in carrying out the duties of the League. I wish the next Secretary success in all his efforts and make the League popular among students.

This year has been another milestone in the road towards Rural Medical Relief, and we, the students of STANLEY MEDICAL COLLEGE, take a vow that we will try our best to contribute what little we can in the onward march of the Nation towards prosperity.

JAI HIND.

K. S. VENKATACHALAM, B.SC.,
Secretary.

STANLEY MEDICAL COLLEGE HOSTEL ASSOCIATION (1953–54)



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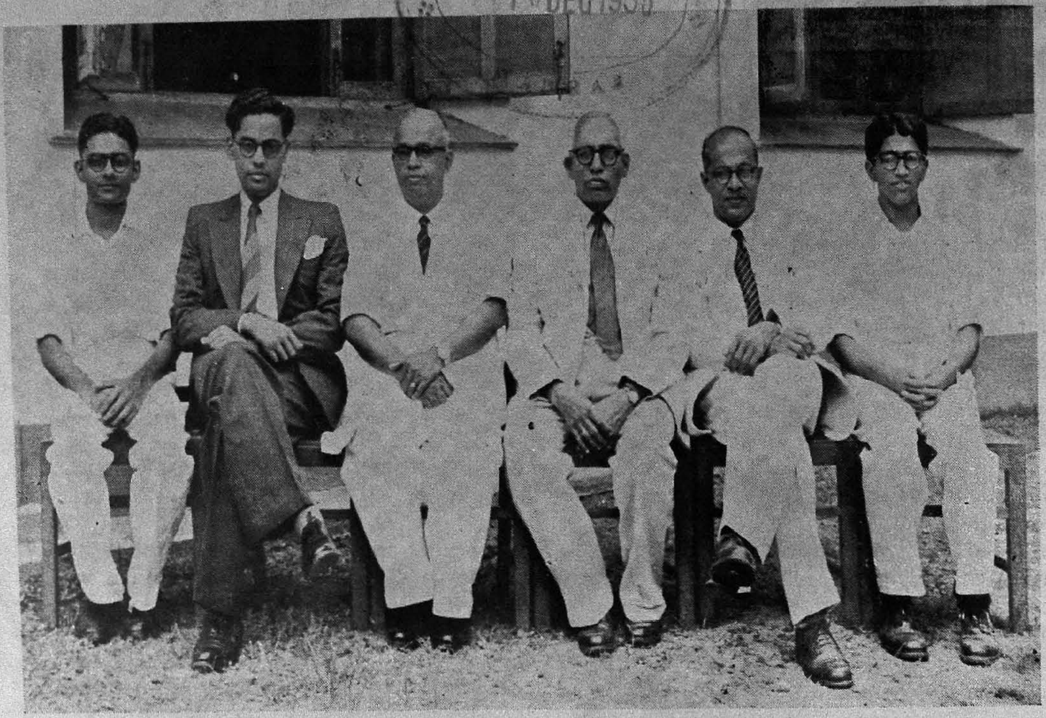
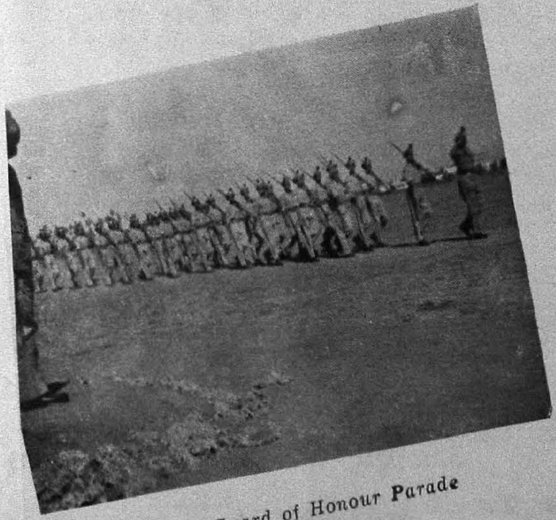
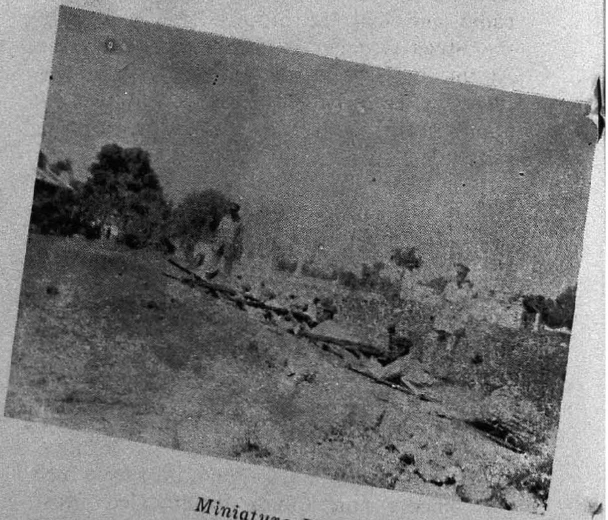


Journal Committee—(1954–55)



N. C. C. Guard of Honour Parade



Miniature Range

6th (M) Medical Company N.C.C.

The activities of this unit for the year 1953-54 began with its first parade on 12th July 1953. In the beginning the strength of the unit was almost full, since most of the senior cadets did not complete their course of training. The small number of vacancies was filled up by the new-comers. The cadets had a tough training by the Officers, J.C.Os. and senior N.C.Os. of the unit.

Training is given in both infantry as well as military medical subjects. The technical training is more or less on the lines of that given in the Army Medical Corps. The boys are taught how to apply the medical knowledge they gather in their class-rooms, to the needs of every day life under the most primitive conditions. The idea is to train them to be future doctors of the Army Medical Corps as well as to create a nucleus of doctors who will be ready to perform medical duties in times of emergency.

Twenty selected cadets attended the "Combined Cadre Social Service Camp" held at Chetput from 16th September to 14th October 1953. Their main work there was to run a M.I. Room and give first aid to the working cadets at the work spot. During this camp cadet Ragupathy from S.M.C. was declared by the circle commander as the best cadet and had the unique honour of being the Strict-Orderly to the circle commander. At the end of the camp, this unit was presented a prize, a silver hut, in praise and appreciation of its works rendered to other cadets.

This unit had its Annual Camp at Kajamalaippatti with 2nd (M) Bn. from 10th December to 23rd December 1953. Two N.C.C. Officers and 46 cadets attended the camp. In addition to the usual training, the cadets had an experience of the actual physical work in Social Service by constructing a road in Subramaniapuram. This unit was allotted a lane of 100 yds. in length and the work was completed satisfactorily in time. There we ran an A.M.I. Room also by which our officers and cadets commanded great influence and respect from the people of other companies. We had the "Field Day" training in which the cadets were divided into 4 squads and were asked to reach a particular place at a distance of 8 miles by means of a map. At the destination each squad was separately tested in "Evacuation of casualities from the front line". We had our miniature range in the camp itself in which the result was satisfactory. On the "Camp Fire" day our cadets entertained the officers and the cadets by an English farce and good songs which thrilled the people. I need not mention that ours was the best item. We stood first in the interior economy, which was very much appreciated by Major Hensman, the C.O. of the 2nd (M) Bn. N.C.C.

On 6th December our company took part in the N.C.C. Day which was centrally celebrated by H.Q. No. 2 Circle of N.C.C. 15 selected men from this unit were sent to take part in the N.C.C. Sports Rally which was held in Bangalore from 4th to 6th February 1954. There was another "Combined Social Service Camp" from 10th to 30th May 1954 at Pennalorepet. The nature of the work was to construct a tank. Our company was mainly concerned with the provision of first aid to the cadets. Besides this, rural medical aid was given to the villagers nearby. We had the long range shooting competition on 14th February 1954 at Meenambakkam. Stanley Cadets displayed an excellent standard of marksmanship. Cadet U/O Ramachandra (S.M.C.) turned out to be the best shot. At present also a few of our cadets are taking part in the "Inter Company Shooting Competition".

Lt. Sarathy (S.M.C.), the Professor of Pharmacology, Stanley Medical College, was promoted to captain in December 1953. The senior promotions of this year were :—

1. *C.S.M.* Padmanaban (S.M.C.) to *U/O* who got his discharge in Dec. 1953.
2. *C.Q.M.S.* Ramachandra (S.M.C.) to *C.S.M.*, later to *U/O* who got his discharge in July 1954.
3. *Sgt.* Christopher (M.M.C.) to *C.S.M.* later to *U/O*.
4. *Sgt.* V. Arumugam (S.M.C.) to *C.Q.M.S.*, later to *C.S.M.*
5. *Cpt.* Soundarapandian (M.M.C.) to *Sgt.* later to *C.Q.M.S.*

The officers and the senior N.C.Os. of this unit gave a series of lectures on medical subjects to the people, underwent "Auxiliary Cadet Corps" training in Guindy in the June 1954.

Jem. Ramanujam got transferred in July 1954 and Jem. Raju took his place. In the place of C. H. M. Kadar, Havildar Rayappan was posted. "Guard of Honour" parade for Flag hoisting was furnished on the occasion of the Independence Day celebration both in M.M.C. and S.M.C. under the Command of Lt. Balen Naidu.

Throughout this academic year the S.M.C. cadets have been very regular on parades, punctual in time and perfect in their work keeping up the tradition. I hope that they will keep it up and improve further. This sort of team spirit is entirely due to the encouragement and strictness of Capt. Sarathy. We hope to do better with the advice of the officers and the co-operation of the cadets. On behalf of the S.M.C. Cadets, I thank the Dean, the Officer Commanding of the unit, and the N.C.C. Officers for their help and encouragement, they have given us throughout the year.

Cdt. C.S.M. V. ARUMUGHAM.

Bharathi Day Celebrations (17-9-54)

Unveiling the Portrait of Bharathi by Sri Mugavai Rajamanickam on the occasion of the Bharathi Day Celebrations in the immediate presence of Sri K. Kamaraja Nadar, Chief Minister, Madras.

RECEPTION TO NEW GRADUATES

(24—8—1954)

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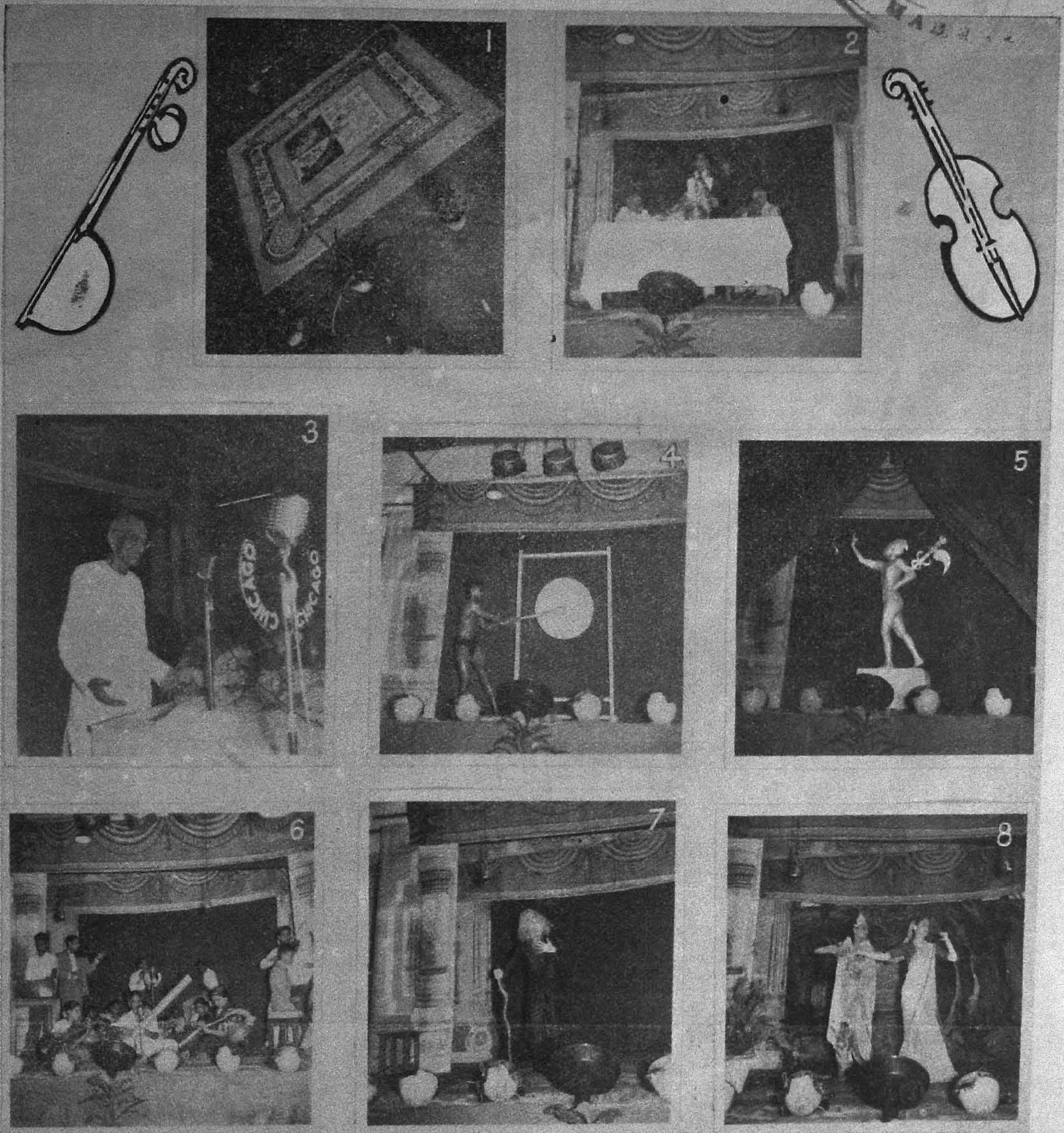

(1) Welcome Guests!
(2) Welcome Address by the student President (Mr. K. S. Venkatachalum).
(3) Advice to the new graduates by Rajaji.
(4) The Stanley Boy (Mr. T. A. James).
(5) Mercury, the messenger of health (Mr. Royappa Reddi).
(6) The Stanley Orchestra.
(7) Dr. Faustus—Mono act by Mr. S. V. Krishna Rao.
(8) Radha & Krishna (Misses Radhamma and Krishna Kumari).

[*Photo* : R. GOPALAKRISHNAN.

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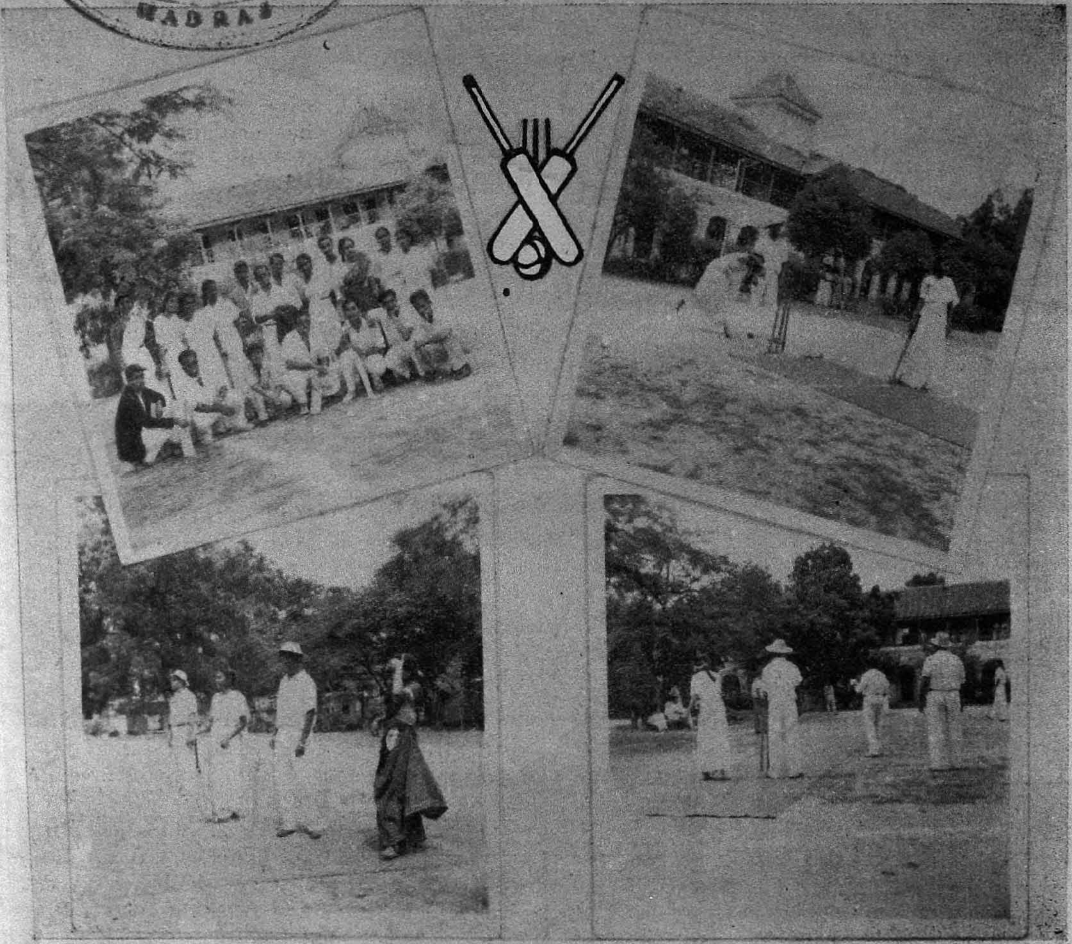
CARNIVAL CRICKET MATCH

(15—8—1954)



(1) Team waiting for a click.

(2) Excellent action: But very wide!

(3) A running race?

(4) Watching the spectators.

[*Photo*: R. GOPALAKRISHNAN.

The Stanley Medical College Athletic Association

I have great pleasure in presenting to you this review of our sports activities for the year 1953-54. The year under review was a period of great activity and it is very refreshing to note increasing number of students taking part in sports and games, especially women students of our college. True, we were not able to maintain our usual high standards and traditions in some departments like football, but this is offset by our glorious achievements in the newly initiated activities like boxing and weight lifting.

Today our College alone can boast of a fully equipped gymnasium, the foundations of which were so well and truly laid by stalwarts like Drs. Sridhara Rao, Shiva Rao and Ramadoss who are also by the way the pillars of the Madras State Weight Lifting Association. In this connection I can do no better than quote verbatim from the Health and Strength Magazine, dated 24th December 1953, the official organ of the Health and Strength League, London, to which our Association is affiliated.

" This is the only Medical College in the whole of India boasting a fully equipped gymnasium. Thirty members train regularly and are showing good progress. Several of them have competed with success in the Madras Weight Lifting Championships and other iron game events. R. Ramadoss, B.A. is the middle weight champion of Madras City and State, while A. S. Sathyanarayana won the Madras City feather weight title last September. A prominent member is Dr. U. Sridhara Rao, President of the Madras State Weight Lifting Association, who also won the middle weight class of the Madras City Championships in September 1953."

Boxing has again come to the fore. In the Inter-Collegiate competitions our candidates Tilak, Hegde and John put up very plucky fights and the creditable performance of our boxing captain won for him a place in the University team. Baker Ali, Rodriges, Somnath, Padmanaban and Balasubramaniam were unable to enter the tournament due to their examinations. The former two were selected along with Tilak to represent the university in the Inter-University boxing held at Ceylon, Mr. C. D. Masilamony, the former Madras Varsity Coach, imparted excellent training to our boxers for a period of three months.

In Tennis our achievements are no less glorious. Under the very able captaincy of Krishnan, we reached the zonal finals this year, only to be defeated by the strong Loyola team, led by the National Champion. But I have to point out that lesser number of students are taking to playing tennis regularly and I appeal to my fellow students to besiege the tennis courts in large numbers.

Our Hockey team did very well in the Inter-Collegiate, winning all the games excepting two, that against the Loyola and Christian College teams. The team had a very successful tour of Bangalore and Mysore, winning all the matches played during their iterinary, under the able captaincy of Paul Devaraj.

The great traditions of our College Football suffered a setback this year. The graduation of our footballs stars Venu and Francis has left a void which we have not been able to fill-up due to paucity of new talents. Still our Football Captain Ananda Natarajan organized a team which in the Inter-Collegiate League drew with Loyola (this year's winners) but lost to Christian College after winning all the other matches. Basavanna Gowd, our centre forward, deserves special mention as he was our constant goal getter in most of these matches.

In Cricket though our boys cannot boast of many victories, it is very gratifying to note that all the members played the game in its true spirit. But I should say that the team has shown a considerable improvement in all fields of the game except fielding which proved to be very costly. Mr. Lakshmipathy was the skipper of the team and he expects better prospects from the team in the near future.

Basket Ball was not very popular. Nevertheless Mr. Baskaran and his men have made the best of a bad bargain and won a considerable number of games.

In contrast many freshers have taken an active interest in Volleyball which had fairly

a very successful season. Abdul Khadir, the captain, expects still great success in future.

Thanks to the efforts of Mr. Basheeruddin, we were able to open a new shuttle-cock court this year.

Badminton had good season under the captaincy of Mr. Aboobacker.

Regarding the Ladies section, let me have the pleasure of bringing to your notice the great surge of enthusiasm and interest, displayed by them in their respective departments of sports.

Thanks to the untiring efforts and zeal of Miss Pankajam the Associate Secretary, Miss Manorama Rao and Miss Manoranjitham, the ladies have made great strides in Badminton and Throwball, even to the extent of inflicting defeats on such institutions as the College of Physical Education and Madras Medical College.

I take this opportunity of placing on record, the services rendered to our association by Sri K. Narayana, our former Physical Director, and welcoming our new Physical Director Mr. K. S. Madhvan. On behalf of the students I acknowledge with gratitude the support and encouragement we had from the staff members headed by Dr. K. N. Pisharoti.

P. R. PADMANABHAN,
Sports Secretary.

CURIOUS LOVE LETTER—

MADAM,

Most worthy of estimation! After long consideration and much meditation on the great reputation you possess in the nation, I have a strong inclination to become your relation. On your approbation of this declaration, I shall make preparation to remove my situation, to a more convenient station, to profess my admiration and if such oblation is worthy of observation and can obtain commiseration it will be an aggrandization beyond all calculation of joy and exultation.

Yours,
SANS DISSIULATION.

* * * * *

THE ANSWER—

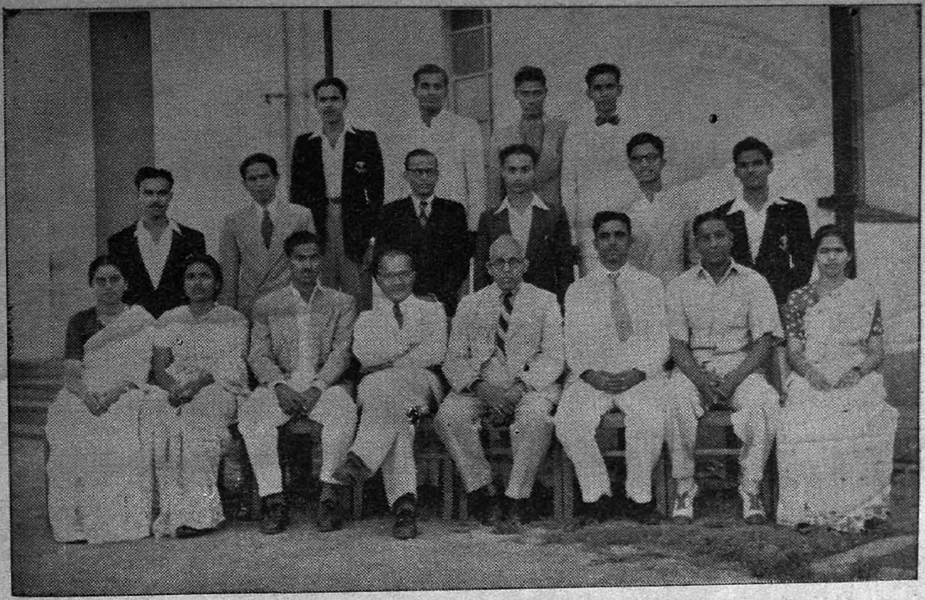
SIR,

I perused your oration with much deliveration, and a little consternation at the great infatuation of your imagination to show such veneration on so slight a foundation. But after examination and much serious contemplation I supposed your animation was the fruit of recreation or sprung ostentation, to display your education by an odd enumeration or rather multiplication of words of same termination though of great variation in each respective signification.

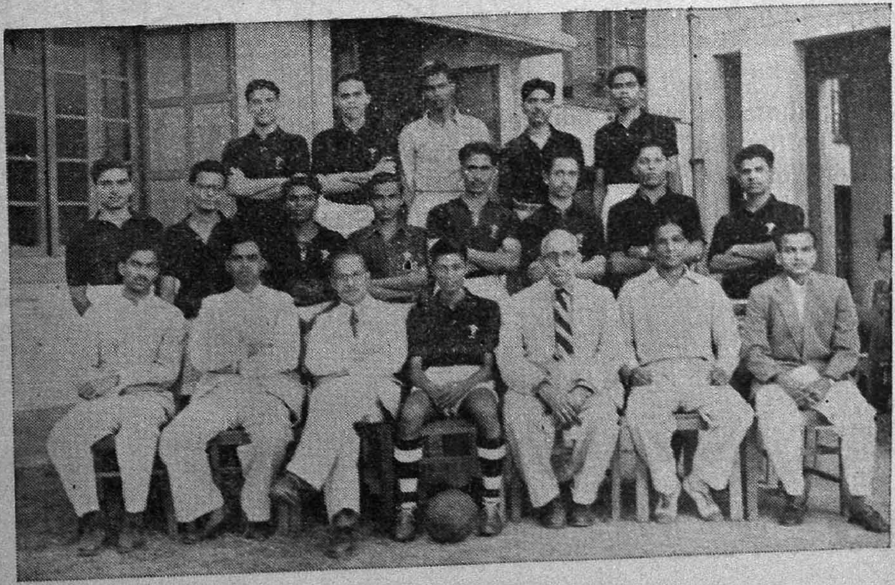
Now without disputation, your laborious application in so tedious an occupation deserves commemoration and thinking imitation a sufficient gratification, I am without hesitation,

Yours,
MARY MODERATION.

—(*Extraction from a Fiction. Extractor;* M. Thayumanavan.)



Athletic Association (1953—54)



Foot Ball Team

STANLEY SPORTS DAY

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"Among those present at our Sports Day Celebrations was our artist who has made a general portrayal of the event as well as all participants. Any individual similarity to persons, living or dead is purely coincidental. The shunting locomotives with their noise and smoke have become so much a part of Stanley that they simply had to be in the picture."

—Editor.

Cricket

The Cricket season this year provided our team with quite a few interesting matches. The first three matches which resulted in thumping victories for the College Eleven inspired us to face the rest of the matches with confidence. Although we lost the remaining matches, we had the satisfaction that we did our best. The most thrilling and exciting encounter was with the Engineers and if we lost the game, it was because the opponents were strengthened by a twelfth member—Dame Luck with all her best smiles!

Special mention should be made of Duke Karunakaran who wielded the willow very well and of Lakshmipathi who bagged the maximum number of wickets for the season. Fielding lapses in many a match proved our undoing and this was a pointer highlighting the need for perfection in this sphere of the game. Considering the fact that we have, in our team, promising talent imbued with zest and zeal, there is every hope that we shall do better in the coming year.

The highlight of the season was the annual fixture between the Staff and Students; the game and the day were enjoyable for the participants and spectators.

WHO'S WHO—THE FLANELLED FOOLS:

1. *Prathap Shetty.*—An opening bowler of vicious stuff-bowls with effortless ease; swings with the pulverising speed of a near-Nissar.
2. *Padmanabhan.*—By all appearances, a menacing bowler, dealing bodyline effectively; swings-in.
3. *Adyanthya.*—A stylish bat—good and smart close-in fielder.
4. *Rama Rao.*—Opening bat and useful off-spinner.
5. *Neelan.*—A tall scorer, brings in much-needed runs with graceful style.
6. *Rajchandran.*—An all-rounder, cheerful on and off the field; promising bowler.
7. *Duke Karunakaran.*—Mr. Batsman, 1953-54. Reliable, sound field.
8. *Sharma.*—Decent bat with virile strokes.
9. *Srinivasan.*—Medium off-spinner—hectic hitter.
10. *Paul Devaraj.*—Excellent close-in field.
11. *Halasyam.*—New find, behind the wickets.
12. *Hegde.*—Useful with the new ball.
13. *Lakshmipathi.*—Yours sincerely!!

T. LAKSHMIPATHI,
Captain.

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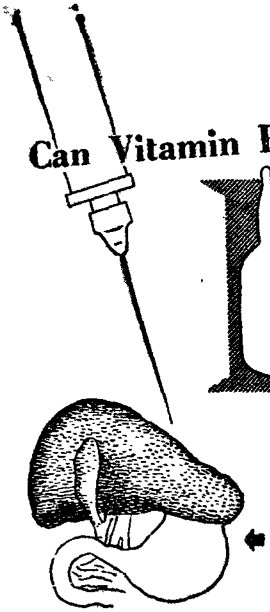

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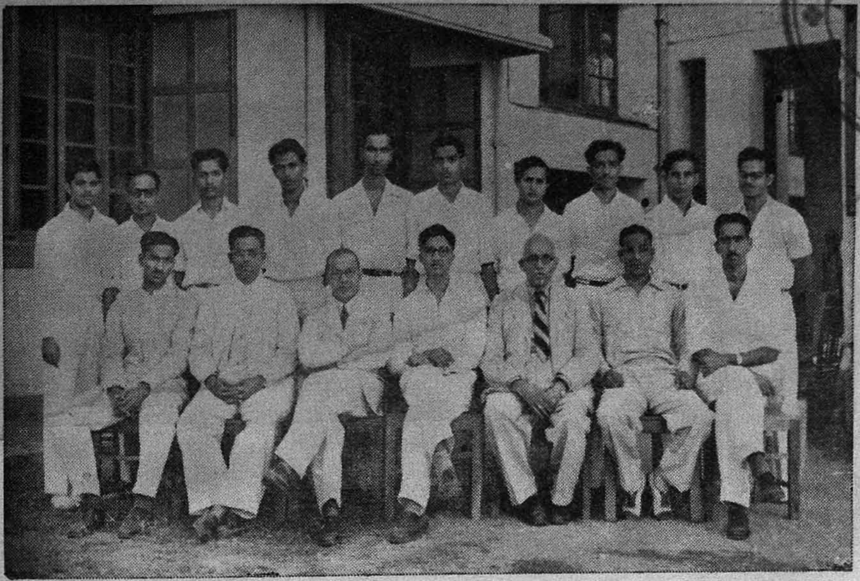
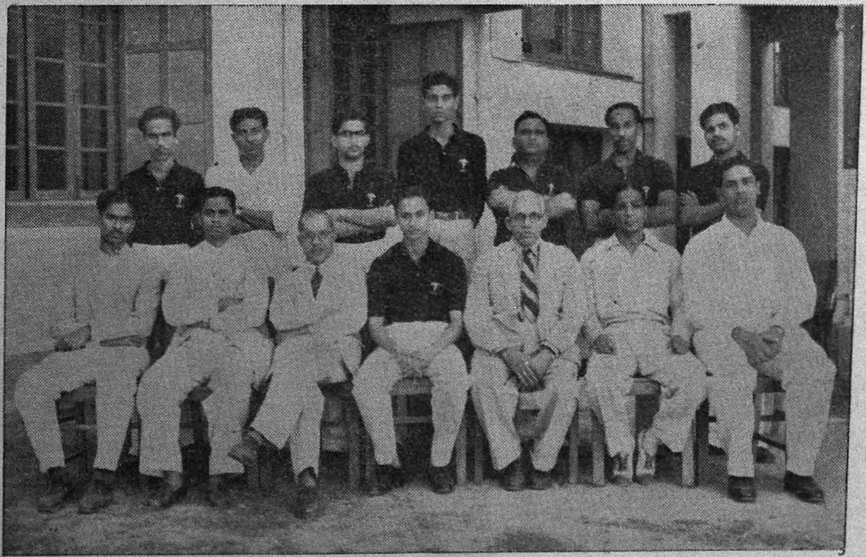
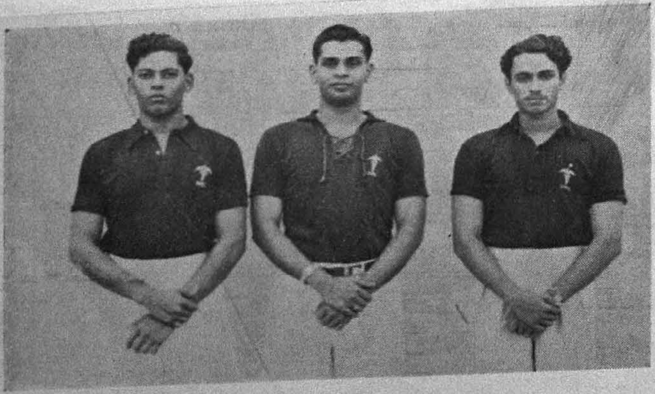


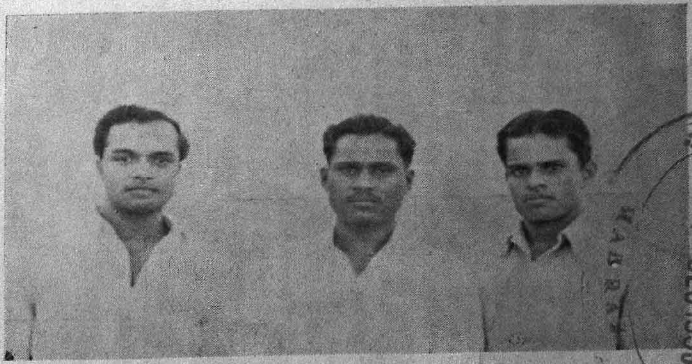
CRICKET TEAM.



VOLLEY BALL TEAM.



Messrs. D. R. Rajaram, Joseph Anthony and S. Ramanujam who represented our College in the First Madras City Novices Weight Lifting Contest, 1954.
[*Photo :* R. Gopalakrishnan.



Messrs. A. S. Sattyanarayana, B. Mari Chetty and P. C. Rajaram who represented our College in the 3rd Madras City Weight Lifting Contest, 1953.
[*Photo :* R. Gopalakrishnan.

10 DEC 1955

Miss A. R. SARASWATHI,
Lady Champion for the past 2 years.

Mr. S. RAMANUJAM,
Champion of Light-weight Class in the first Madras City Novices Weight Lifting Contest, 1954. Total 375 lbs.
[*Photo :* R. Gopalakrishnan.

Mr. A. S. SATHYANARAYANA,
Champion of Feather-Weight Class in the Second Madras City Weight Lifting Contest, 1952. Total 475 lbs.
[*Photo :* R. Gopalakrishnan.

Soccer Story

Our great expectation to enhance the strength of our team by new finds from freshers were shattered when we found none among them. We got only one new player Mr. Jagadeeschandran, our left-half. The passing out of college of Mr. Venu and Mr. Francis was a great loss to the team. Mr. Shanmuganathan, Mr. Rajaram and Mr. Muthu fully justified their selection into the first XI.

We started the season with a few practice matches against some of the leading clubs of Madras. This year the City Colleges were divided into two zones and we did not have any difficulty in winning the matches against Engineering, Theagaraya, Veterinary, M.I.T. and C.N.T. Then we had to meet Loyola College, this year winners in League on their grounds. Our defence played their best and the match ended in a goal-less draw. Then in the important zone final against Christian, we went down meekly. This is due to our lack of practice for all the players were busy with their December examinations. We also did not enter for Wilson Cup due to December examinations.

In the May and Baker tournament we defeated Polytechnic in the quarter-finals. Then in the semi-final match against Y.M.C.A. we lost to them by 2 goals to 1. Mr. Goud, our chief goal getter, was injured in the very first minute and we were forced to play with 10 men.

We also entered for the B. V. Naidu Cup tournament. In the quarter-final match against Loyola, we drew with them in our first encounter and lost to them in the re-play.

In the Wadi Memorial Football finals we lost to Madras Medicals by 4 goals to 3 in a thrilling match. We had the lion's share of the game but the day was not ours. This game will never be forgotten by all who witnessed. Thus ended our season. Mr. Goud was the top scorer in all the games.

I must thank all my players for their co-operation. Somanath, our next year's captain, is capable of a mighty good deal and I wish him all luck in all his enterprises.

The following represented our team :

Duke Karunakaran

Ahamed Khan

Somanath

Padmanabhan

Gopalakrishnan

Shanmuganathan

Mathew T. J.

Muthu

Dr. Janardanan.

James

Goud

Jagadeeschandran

Balaraman

Rajaram

V. S. ANANTHA NATARAJAN,
Captain.

III Years' Excursion to THADA

"Far from the maddening crowd!"

"Not a bad pose indeed!"

"Let us sing a song of love
As we sail in the ocean of life."

Volley Ball

The year 1953-54 was a fairly successful year despite the fact that the final result—matches played seven ; won four—was not quite flattering ; but we were quite satisfied with the performance.

We were not able to take part in the Bartram Memorial Tournament because of the fast approaching examinations and so we had to shift from the ball to the book.

Three of our team-mates, Dr. M. P. Krishnan, Dr. C. P. Madhavan Kutty and Dr. Poornayyan have passed out. They formed the bulwark of the team. We miss them in future, but we wish them the best of luck.

An outstanding feature of the year was the keen interest the new-comers were taking in the game. We hope to form a formidable team in the future.

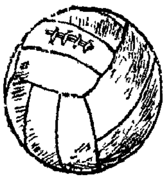
OUR PLAYERS :

1. Dr. M. P. Krishnan : Why man, he bestrides the Volley-ball court like a collossus.
2. Dr. C. P. Madhavan Kutty : Hitter *par excellence.*
3. Dr. Poornayyan : Versatile as his name suggests.
4. Jacob Graham : Always dependable when fighting with our backs to the wall.
5. Jesudas : Strikes terror into the hearts of opponents.
6. Sri Hari Rao :
   Here was a lifter,
   When comes such another.
7. A. V. Karunakaran : A bud, will bloom alright.
8. Ramachandran : A colt who when he kicks, kicks hard.
9. Abdul Kader : No trumpets please.

My sincere thanks to those Stanleyans who encouraged us throughout.

Lastly I wish my successor the best of luck.

M. ABDUL KADER,
Captain.



Stanley Gymnasium

The Gymnasium was started in the year 1951. The gymnasium at present is equipped with a Barbell Set, Dumb-bells, Inclined Benches, a Horizontal Bench, a Lat Machine and the "Squat Rack". At present many of the students are interested in this Iron Game and are doing exercise regularly.

Prof. K. K. Shivaji Rao and party gave a demonstration of physical feats and strength in the premises of our Hostel on 28th August 1953. Among the feats the outstanding are the lift performed by Shivaji Rao's sister who lifted by means of her plaited hair four iron discs weighing 160 lbs. about 1 foot above the ground level and the act of breaking a 4″ thick stone with the forearm by Sri Shivaji Rao.

A farewell party was given by the members of the gymnasium to Dr. S. Dakshinamurthy on 29th August 1953 as he has been posted at Christian Medical College Hospital, Vellore, for his House-surgeoncy course. Dr. S. Dakshinamurthy is the "Iron Man of Stanley" and he is a very prominent member owing to his stylish lifting and calm nature.

Messrs. A. S. Sathyanarayana, P. C. Rajaram and B. Mari Chetty represented our gymnasium in the Third Madras City Weight-lifting Championships held on 13th September 1953 at the premises of the Madras Port Trust Staff Institute, 1st Line Beach, Madras.

A demonstration of Yogic Poses and Feats of Physical Strength was given by Prof. O. R. Srinivasan, Physical Training Instructor, Ramakrishna High School, Athur, Chingleput District, at 5 p.m. on 19th September 1953 in the premises of our Hostel. Dr. G. D. Veliath, (Vice-Principal), Dr. B. S. Rao, (Warden) and Sri K. Narayana (Physical Director) were present. Dr. G. D. Veliath presented a purse on behalf of the students to Prof. O. R. Srinivasan.

I am proud to mention that the Third Stanley Weight-Lifting Championship was conducted in a grand style and Sri R. Ramadoss, B.A. acted as the judge. 16 competitors took part in it and this year we had competitors in the Light-Heavy Weight Class also. We hope to have an Inter-Collegiate Weight-Lifting contest along with the Inter-Collegiate Sports in February 1955.

I am grateful to Dr. G. D. Valiath, (Vice-Principal), Dr. A. Asirvatham, (Warden) and Sri K. S. Madhavan (Physical Director) for their kind permission to fix the "Squat Rack" in the hall which is allotted for the gymnasium. The "Squat Rack" is a valuable apparatus to do power exercises for Two Hands Clean and Press, Squats and Press on Inclined Bench.

I am thankful to Sri Lionel Lobo, a member of our gymnasium, for having presented a big mirror to the gymnasium.

Messrs. Joseph Antony, D. R. Rajaram and S. Ramanujam competed in the First Madras City Novices Weight-Lifting Contest held in the premises of the Accountant-General's Office Recreation Club, Madras, on 24th July 1954. Sri S Ramanujam won the Championship of the Light Weight Class by lifting a total of 375 lbs. Sri Joseph Antony lifting a total of 405 lbs. was placed third in the Middle Weight Class.

I am very thankful to Dr. G. D. Veliath, Sri K. S. Madhavan and Dr. A. Asirvatham for their valuable suggestions in this Iron Game.

I wish my successor, Sri K. Balasubramaniam, the best of luck in the coming year.

ISRAEL PANDITHURAI, B.A.,
Captain.

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We also thank all the advertisers as well as Messrs. H. A. Peshimam (of Bombay), S. Rajagopalan and A. Srinivasan for their kind co-operation in collecting the advertisements.

Last but not least, we sincerely thank M/s. Jupiter Press Ltd. for their neat and prompt service.

EDITORS.